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"A CLINICAL STUDY TO EVALUATE THE EFFICACY OF NABHI BASTI WITH BILWA TAILA IN THE MANAGEMENT OF VATAJA GRAHANI VIS – A – VIS IRRITABLE BOWEL SYNDROME."

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ABSTRACT

Grahani Roga is a condition, where impairment of Agni, along with Apana and Samana Vayu is seen. Vataja Grahani is a type of Grahani with Predominance of Vata Dosha. Symptoms of Vataja Grahani are Punah Punah Srijet Varcha, Drava, Tanvama, Sashabdaphena, Dukkhayukta Mala Pravritti[1]. The clinical features of Vataja Grahani closely resembles clinical features of Irritable Bowel Syndrome (IBS). IBS is a functional bowel disorder, characterized by abdominal pain or discomfort and altered bowel habits like pain associated with defecation, frequency, urgency, passing mucus, Gas and flatulence, in the absence of detectable Structural abnormalities[2]. In classics, chikitsa for Vataja Garahani is Langana, Deepana, Pachana, Yavagauyukta Sarpi Paana,basti and as per Vagbhata and Bhavamisra Chikitsa of Atisara can be employed in the management of Grahani[3]. Nabhi basti is a modified form of Nabhi purana explained in the Atisara chikitsa. In this study an effort was made to evaluate the efficacy of Nabhi basti in the management of Vataja grahani roga. It is a single group study with 30 subjects with Pre and Post test design. Signs and Symptoms were observed before after the intervention and during follow up, data was collected and analysed statistically. Statistically significant results were observed in, Atidaravamala pravrutti, Samamala pravrutti, Adamana, Udarashula, Baddamala and Abdominal tenderness.

Key words : Nabhi basti, Vataja grahani, Nabhi purana, Bilva taila, Irritable bowel syndrome

INTRODUCTION

Nabhi basti is a unique type of Bahirparimarjana chikitsa, where Sneha Dravya is made to retain over nabhi pradesha or Umbilical region for specific time duration. In classics there is no direct reference for Nabhi basti, but we get references regarding Nabhi purana, Karna purana, Gudapurana, Yoni purana. Nabhi basti is the extended form of Nabhi purana mentioned in the Atisara chikitsa[4]. Which has Agni deepaka, Amapachaka and grahi actions.

Grahani roga is one among the astamahagada, caused by mithyahara, mithyavihara, atisara and manasika nidanas and produces symptoms based on the dosha involved. Vataja grahani is a type of Grahani roga with predominance of vata dosha. Agnidushti, involvement of Annavaha, Pureeshavaha srotas, Samana vata, Pachaka pitta, Apana vata makes the disease difficult to manage.

Signs and symptoms of vataja grahani can be correlated to Irritable bowel syndrome, which is a Psychosomatic disease affecting both mind and the body. IBS is a functional bowel disorder, characterized by abdominal pain or discomfort and altered bowel habits like pain associated with defecation, frequency, urgency, passing mucus, Gas and flatulence, in the absence of detectable Structural abnormalities[5]. IBS is the one of the most common conditions Encountered in clinical practice with Prevalence of 4 to 7.2%. Severity of Symptoms varies and can significantly impair quality of life resulting in higher healthcare costs.

Management principles of Vataja grahani includes, Atisaravat chikitsa, Agni Deepana, Amapachana, Snehapana, Vamana, Virechana, Basti, shamanoushadis. Despite of these treatment tools, the nature and chronicity of the disease makes it difficult to manage the condition and there is need for the newer techniques and treatment tools to pacify the disease without disturbing the fundamental principles of Ayurveda.

Nabhi basti is designed based on the principle of "Atisaravat chikitsa", as both diseases share similar pathology. Nabhi basti with Bilva taila exerts systemic action, does Amapachana, Agni deepana and brings normalcy in the functioning of Apana vata, Samana vata and Pachaka pitta.

Bilva taila used in the Nabhi basti contains drugs that are having properties of Amapachana, Agni Deepana, Vatanulomana, Grahi and Shula prashamana which are essential to Manage Vataja grahanai effectively.

Thus an effort was made to explore the utility and efficacy of Nabhi basti with Bilva taila in the Management of Vataja grahani roga and it showed significant results in the subjective parameters.

AIMS AND OBJECTIVES

- To evaluate the efficacy of Nabhi basti with Bilwa Taila in the management of Vataja Grahani VIS – A - VIS Irritable Bowel Syndrome.

MATERIAL AND METHODS

SOURCE OF DATA:

- Subjects were incidentally selected from OPD & IPD of Government AyurvedaMedical College and Hospital, Mysuru and Government Hi-Tech PanchakarmaHospital, Mysuru.

SOURCE OF DRUG:

- Bilva taila was procured from a GMP certified pharmacy, Mysuru

Diagnostic Criteria:

Clinical features of Vataja Grahani

- Punah Punah Srijet Varchaha(frequent passing of stools)
- Chirat Dukham Mala Tyaga(Prolonged painful evacuation)
- Tanvamam Sashabdaphena Mala Tyaga (expels thin, unformed frothy stools with flatulance)
- Drava Mala Pravritti (Expels watery stools)
- Jeerne Jeeryati Admanam, Bhukto Swastham Upaithi Cha (Distention of abdomen after digestion,which reduces after food intake)

Rome IV criteria

Recurrent abdominal pain, on average at least 1 day /week in the last 3 months associated with 2 or more of the following.

i. Related to defecation
ii. Associated with change in frequency of stool
iii. Associated with change in the form of the stool

Criteria fulfilled for the last 3 months, with symptom onset at least 6 months before diagnosis.

Inclusion criteria:

- Subjects between age group of 18 – 60 years, irrespective of gender, religion, occupation.
- Subjects fulfilling the Rome IV criteria.
- Subjects having clinical features of Vataja Grahani.
- Both freshly diagnosed and treated cases

Subjects fulfilling above parameters were selected for the study.

Exclusion criteria:

- Subjects who underwent surgery for Umbilical hernia, Exploratory laparotomy, Fistulectomy.
- Subjects with history of Carcinoma of colon.
- Subjects with Diabetes mellitus
- Subjects with uncontrolled Hypertension. (140/90mm of hg)
- Pregnant and lactating women.
- Subjects with other systemic illnesses which interfere with the intervention.
- Subjects who were not fit for Nabhi Basti.

Study design:

Single group observational study with pre and post study design

Sample size:

Study was conducted in 30 subjects.

Sampling method:

Purposive sampling method was followed

Intervention

Nabhi basti was done with Bilva taila was done

Table 1 Showing the intervention

Procedure	Method
Poorvakarma	• Patient was be asked to evacuate the bowel • Patient was asked to stay on empty stomach. • Masha Churna of sufficient quantity was taken and dough of proper consistency was prepared • Dough was placed around the Nabhi in circular shape of 4-inch diameter and 2-inch height.
Pradhana Karma	• Bilwa Taila was heated over a water bath • Luke warm Bilwa Taila was poured with the help of cotton along the border of dough inside the circle. • Uniform temperature was maintained throughout the procedure. • Procedure was performed for the duration of 45 mins
Paschat Karma	• Oil was removed with the help of cotton • Dough was removed • Mrudu Abhyanga over Udara was done in clockwise direction followed by mrudu tapa sweda.

Duration of the intervention-14 days.

ASSESSMENT CRITERIA:

Clinical features of Vataja Grahani were taken for the assessment criteria

1.Muhur Muhur Drava Mala Pravrutti **(**frequent passing of stools**)**

Table 2 Showing Scoring of Muhur muhur drava mala pravrutti

Clinical feature	Score
Formed stools 1-2 times daily	0
Watery stools 1-4 times daily	1
Watery stools 4-8 times daily	2
Watery stools more than 8 times daily	3

Table 3 Showing Scoring of Ama mala pravrutti

Clinical feature	Score
No mucus	0
Visible mucus with stool	1
Passage of mucus with frequent stool	2
Passage of large amount of mucus in stool	3

Table 3 Showing Scoring of Udara shula

Clinical feature	Score
No abdominal pain	0
Occasional / rarely abdominal pain	1
Intermittent lower abdominal pain, relieved by passage of flatus & stool	2
Continuous pain not relieved by passage of flatus & stool	3

Table 4 Showing Scoring of Admana/sashabda mala

Clinical feature	Score
No abnormal gas / flatulence	0
Occasional abdominal distension	1
Frequent abdominal distension with increased flatulence & belching	2
Rumbling / Gargling sound present in abdomen	3

Table 5 Showing Scoring of badda mala

Clinical feature	Score
Normal once daily	0
Hard stools	1
Hard stools with straining	2
Hard stools with feeling of incomplete evacuation	3

Table 6 Showing Scoring of Abdominal tenderness

Clinical feature	Score
No tenderness	0
Mild	1
Moderate tenderness	2
Severe tenderness	3

ASSESSMENT SCHEDULE:

Pre-test assessment – 0^{th} day

Post test assessment – 15^{th} day

Follow- up – 30^{th} day

OBSERVATIONS AND RESULTS:

Assessment of subjects was done with vataja grahani symptom scoring, this was done on 0^{th} day (Before treatment), after treatment (15^{th} day) and on 30^{th} day (Follow - up) and Friedman's test was used to analyse the data.

1. **Drava mala**

Among 30 subjects, 13(43.3%) subjects had 1-4 episodes of Drava mala, 11(36.7%) subjects had 4-8 episodes of drava mala and 6(20%) subjects had more than 8 episodes of drava mala per day.

After treatment 13 subjects (43.33%) had marked improvement, 15 subjects (50%) had moderate improvement and 2 subjects (6.7%) had mild improvement in Drava mala.

Statistical analysis showed the mean score of Drava mala before treatment as 2.93 which was reduced to 1.48 after treatment with a statistically highly significant P value of 0.000. The mean score at the time of follow- up was 1.58 with a statistically highly significant P – value of 0.000.

2. Ama mala

Among 30 subjects, 16(53.3%) subjects didn't had mucus in stool, 13(43.3%) subjects had visible mucus and 1(3.3%) had mucus with frequent stool.

After treatment, among 14 subjects who had Ama mala all 14 subjects (100%) had marked improvement.

Upon statistical analysis, mean score of Ama mala before treatment as 2.43, which was reduced to 1.73 after treatment with statistically highly significant P value of 0.001. Mean score at the time of follow – up was 1.83 with a statistically highly significant P – value of 0.001.

3. Abdominal tenderness

Among 30 subjects, 5(16.7%) subjects didn't had tenderness, 21(70%) subjects had mild tenderness and 4(13.3%) subjects had moderate tenderness.

After treatment, among 25 subjects who had abdominal tenderness 14 (56%) subjects had marked improvement, 10 (40%) subjects had moderate improvement and 1(4%) had mild improvement.

Statistical analysis showed the mean score for tenderness as 2.50 before treatment, which was reduced to 1.70 after treatment with statistically highly significant P value of 0.000. At the time of follow up mean score was 1.80 with a statistically highly significant P – value of 0.000.

4. Udara shoola

Among 30 subjects, 6(20%) subjects had occasional abdominal pain, 23(76.7%) subjects had intermittent udara shoola and 1(3.3%) subject had continuous udara shoola.

After treatment 7(23.3%) subjects had marked improvement, 22 (73.3%) subjects had moderate improvement and 1(3.3%) had mild improvement in Udara shoola.

Statistical analysis showed the mean score for udara shoola as 2.93 which was reduced to 1.53 after treatment with statistically highly significant P value of 0.000. Mean score at the time of follow – up was 1.53 with a statistically highly significant P – value of 0.000.

5. Admana (Gas / flatulence)

Among 30 subjects, 14(46.7%) subjects didn't had abdominal distention, 10(33.3%) subjects had occasional distention of abdomen, 5(16.7%) subjects had frequent distention of abdomen with increased flatulence and 1(3.3%) subject had rumbling or gargling sound present in the abdomen.

Among 16 subjects who had admana, 6 (37.5%) subjects had marked improvement and 10 (62.5%) subjects had moderate improvement.

Statistical analysis showed the mean score for admana before treatment as 2.37, which was reduced to 1.78 after the treatment with statistically significant P value of 0.001. At the time of follow – up mean score was 1.85 with a statistically highly significant P – value of 0.001.

6. Badda mala

Among 30 subjects, 3(10%) subjects had normal stool once daily, 25(83.3%) subjects had hard stools and 2(6.7%) subjects had hard stools with straining.

After treatment, among 27 subjects who had Badda mala, 10 (37.3%) Subjects had marked improvement, 16 (59.25%) subjects had moderate improvement and 1 (3.70%) subject had mild improvement.

Statistical analysis showed the mean score for baddamala before treatment as 2.30, which was reduced to 1.82 after the treatment with the P value of 0.008 which is statistically insignificant. At the time of follow – up mean score was 1.88 with the P value of 0.008 which is statistically insignificant.

Overall assessment

Overall assessment was done based on the subjective parameters. After treatment, on 15th day 3(10%) subjects had complete relief, 26(86.66%) subjects had marked improvement, 1(3.33%) subject had moderate

improvement. At the time of follow up, on 30th day, 4 (13.33%) subjects had complete relief, 26(86.67%) subjects had marked improvement.

Table 7 Showing overall assessment

Sl.no	Improvement	Number of Subjects	Percentage %
1	Marked improvement	29	96.6
2	Moderate improvement	1	3.33
4	Mild improvement	0	0
5	No improvement	0	0

Thus, Nabhi basti with Bilva taila showed highly significant results in the management of Vataja grahani roga.

Discussion on Nabhi basti in Vataja grahani

Nabhi basti is a bahirparimarjana chikitsa which is having the action of both snehana and swedana. Nabhi basti with Snigdha and Ushna guna of Bilva taila pacifies Ruksha and Sheeta guna of Vata. The vishishta sthana of Nabhi basti also plays an important role in management of Grahani roga because Grahani is situated above the Nabhi pradesha, when drugs are administered through the nabhi they directly reach the target site i.e., Grahani, helps in effective management of Grahani roga.

In the present study the following factors were analyzed and discussed;

Purva karma

1. Sambhara sangraha

a. Quantity of Masha churna:

During the study it was observed that maximum quantity of Masha churna required was 500gms to prepare the Nabhi basti ring of adequate size. The masha pishti once used can be preserved and reused for 3 days. Nearly 2kgs of flour was sufficient to carry out the procedure for 14 days.

b. Height of Nabhi basti ring:

Abdominal wall moves continuously with each inspiration and expiration, so to prevent spillage of oil and to submerge whole area of Nabhi pradesha, a ring of 2inch height was prepared with Masha pishti.

c. Diameter of Nabhi basti ring:

Diameter of 4inch ring was prepared to cover the maximum surface area which helps in maximum absorption of active molecules. This diameter also helps to change the oil easily without disturbing the integrity of Nabhi basti ring.

d. Quantity of oil required:

In the present study oil was replaced every three days and for each three days minimum oil used was 150ml including the wastages. Hence on an average, 600-750 ml oil was needed for smooth execution of the procedure for 14 days.

2. ***Atura pariksha:*** After assessing the atura by means of Dashavidha pareeksha, it is ideal to do pareeksha of nabhi pradesha. During the study it was observed that the following factors related to atura have an impact on Nabhi basti.

Shape of the abdomen:

In present study it was observed that the shape of abdomen also affects the quality of the procedure. In subjects with flat abdomen procedure went smoothly, but in subjects with distended and pendulous abdomen height of basti ring needed was more compared to the subjects of flat abdomen, and chance of leakage was more in such subjects, which was solved by increasing the height of ring and by firm fixation of ring.

3. Atura siddata

a. Importance of empty stomach:

In present study, subjects were asked to undertake the Nabhi basti on empty stomach, this was because in Vataja Grahani there will be a tendency to defecate immediately after the food intake or few hours after food intake which would cause discomfort to the patients to lie in supine position for 45 minutes and it would interrupt the procedure if subject gets the urge to defecate in the middle of the procedure.

b. Mala and Mutra tyaga:

Mala and mutra tyaga prior to the procedure is very important as subjects with Grahani will have muhur muhur mala pravrutti. If subject has not passed mala prior to the procedure, he or she may get the urge to defecate during the procedure. Though bahu mutrata is not the lakshana of Grahani, it is better to empty the bladder prior to the procedure to prevent interruption in procedure.

c. Position for Nabhi basti:

In present study Nabhi basti was done in supine position as Nabhi is the Madhya bahaga of the Shareera Supine position is the ideal position for the procedure.

d. Proper fixation of Masha pishti ring

Unlike other sthanas, udara moves continuously with respiration this might cause leakage of oil causing wastage of the medicine and in some cases interruption to the procedure. To prevent this firm fixation is very important.

Pradhana karma

After fixing the Masha pishti ring around the umbilicus, Bilva taila was heated indirectly over the water bath and poured inside the ring.

a. Temperature of oil:

Abdominal skin is very thin and sensitive to temperature and pain sensation. One has to be very cautious while maintaining the temperature of oil as it may causes scalds when too hot oil is poured. It is advised to pour the oil along the wall of the basti rather than pouring it directly on the skin. on an average a temperature of 38 degree C was maintained in the study and was well tolerated by the patients. During the period of 45 minutes the oil was replaced for several times to maintain the uniform temperature throughout the procedure. Different seasons also affected the temperature of the oil. It was observed that in winter and rainy season the temperature of oil would down rapidly requiring repeated change of oil as compared to the Summer where a smaller number of changing the oil was needed.

Duration of the procedure:

In the present study the duration of procedure was fixed to 45 mins. Because Nabhi basti is the sthanika basti and methodology of Shirobasti was adopted, where Acharys have advised the duration of 10,000 matra kala for vata dosha which makes it around 53 minutes. Based on this reference duration of 45 minutes was taken as there was a samsarga of pitta and Kapha dosha in Vataja grahani. Patients were comfortable throughout the procedure and tolerated the treatment for 45mins every day.

b. Effect of cough

Cough increases intra-abdominal pressure leading to transient and rapid movements of abdomen. During the study it was observed that Coughing loosens the bandha of Masha pishti and leads to the leakage of taila. Precautionary measures are needed to prevent leakage of oil in subjects with Kasa.

Paschat Karma

After removing the oil and mashapishti, Mrudu abhyanaga and Hasta sweda over nabhi pradesha was done which helps in vata shamana.

Mode of Action of Nabhi basti

The probable mode of action of Nabhi basti is discussed under two headings

1. Procedural effect
2. Drug effect

Procedural effect

Nabhi basti, by virtue of its vishishta sthana, gives very beneficial effect in the management of Vataja grahani. When the Sneha dravya is made to retain over the Nabhi pradesha, the veerya of Dravya enters the body through different mechanisms.

1. Through romakupa and dhamani

As described by acharya Susruta, all the dravyas which are administered through the tvacha enters the body through romakupa which are having micro-openings that connect the outer surface of Tvacha to the inner layers of Tvacha. When veerya of Dravya enters the inner layers of Tvacha, Brajaka pitta acts on it and from there only action of veerya starts[6]. Nabhi is the moola sthana of Sahasra dhamani and they move in urdhva adha and tiryak marga[7], when Dravya is administered through the nabhi the Veery of the Dravya moves all over the body from the sahasra dhamani, reaches the target site and exerts its action. In Vataja Grahani veerya of Dravya exerts its action mainly on Grahani pradesha and Mastishka and helps in samprapti vighatana.

2. Through Manipura Chakra

Chakra are the part of the Sukshma shareera through which energy is circulated, Manipura Chakra is the 3rd Chakra which is situated in the nabhi pradesha. Because of this reason Nabhi basti is also called as Chakra basti. As manipura Chakra regulates the Agni and manas any stimulation to the manipura Chakra improves the agni and normalizes the functioning of manas which is highly beneficial in the management of Grahani roga where functioning of agni and Mana are hampered. When the Bilva taila is delivered to the nabhi through Nabhi basti, it stimulates Manipura chakra. When Manipura Chakra is stimulated it acts on agni and brings balance in it. Manipura Chakra is also connected to the Sahasrara which normalizes the functioning of Manas and thus helps in managing the both somatic and psychological symptoms of Grahani roga.

3. Through coeliac plexus (Solar plexus)

In yogic science Manipura chakra is correlated to Coeliac plexus (Solar plexus). Coeliac plexus plays an important role in Management of Vataja grahani/IBS as it regulates the peristalsis of intestine and Gastro intestinal secretions[8]. When active molecules of Bilva taila enter the body through Nabhi basti they also act on Coeliac plexus, Parasympathetic division of coeliac plexus increases digestive juice secretions and peristalsis, increased secretions of digestive juices improve appetite, aids in proper digestion of ingested food. And increased peristalsis reduces badda mala or constipation. The sympathetic division of coeliac plexus reduces Peristalsis of small intestine leading to proper digestion of food and also reduces the increased frequency of defecation.

Through the venous network

During Nabhi basti active molecules of Bilva taila enter the systemic circulation through the two routes. Fat soluble molecules are absorbed through the skin, enters fat layer and directly reach the systemic circulation.

Another route is via Superficial venous network. Umbilicus is surrounded by superficial venous network, which forms portocaval anastomosis[9]. When drug enters superficial venous network, it reaches paraumbilical veins, through the portocaval anastomosis active molecules reach the heart and then enters systemic circulation. Once the drug reaches systemic circulation, they move towards the target area. In Vataja grahani, active molecules of Bilva taila move towards small intestine and brain and produce desired effect.

Discussion on – Bilva taila

Bilva taila is a formulation explained by Bhavamishra in the Atisarachikitsa, it contains 13 ingredients including taila[10].

1. **Bilva phala:** Here apakva bilva phala is used, because it is Kashaya rasa, Ushna veerya in nature. Kashaya rasa does sthambhana, dravashoshana and acts as Grahi. Ushna veerya does amapachana and agnideepana.

4, 7, 8-trimethoxyfuroquinoline, Flavonoids present in the phala has anti-diarrheal and anti-bacterial activity.

2. **Dhataki:** Pushpa of Dhataki was used in taila. Dhataki has Kashaya rasa and Katu vipaka. Acharya charaka has kept it in Purisha sangrhaneeya gana. Kashaya rasa does drava shoshana acts as grahi and Katu vipaka helps in Amapachana.

Its Chemical constituent Woodfordine A, B, and C has shown antidiarrheal activity.

3. **Kushta:** It has Tikta katu rasa, Ushna veerya and Katu vipaka. Tikta katu rasa and Ushna veerya does Amapachana and Agni Deepana.

Many studies have shown the anti-bacterial and anti-spasmodic activity of Castol present in Kushta.

4. **Shunti:** It has Katu rasa and Ushna veerya. Charaka has kept it in Shulaprashamana and Deepaniya gana. By this action it does amapachana and Shulaprashamana in Grahani roga.

Oleoresins, d- zingiberene exhibit anti-inflammatory and antispasmodic activity which helps in reducing pain.

5. **Rasna:** Tikta rasa, Katu vipaka and Ushna veerya of rasna does Agni Deepana, Amapachana and does shamana of Shula.

Chemical constituents like triterpenes, sitosterol have shown anti-inflammatory action which reduces pain.

6. **Punarnava:** Madhura rasa, Katu vipaka does vatashamana, Agni deepana and amapachana.

And ethanolic extracts have shown antistress activity, which is helpful in patients suffering from Grahani roga.

7. **Devadaru:** Tikta, Katu rasa, Katu vipaka and Ushna veerya of Devadaru does Deepana, Amapachana, Sangrahi actions and help in relieving symptoms of Grahani roga.

The heart wood extracts of Cedrus deodara has shown anxiolytic activity and another constituent Himachalol has shown anti-spasmodic activity.

8. **Vacha:** Katu tikta rasa, Katu vipaka, and Ushana veerya does amapachana, Deepana and Grahi actions. Methanolic extracts have shown Anti spasmodic and Anti diarrheal actions which is helpful in managing Grahani roga.

9. **Musta:** Tikta katu rasa, Sheeta veerya and Katu vipaka of Musta exerts Stambhana, Deepana, Pachana along with that Chemical constituent in musta like Cyprotuoside A and cyprotuoside B showed remarkable antidepressant activity. Methanolic extracts have shown anti-diarrheal activity. Overall musta helps in managing both psychological and somatic symptoms in Grahani roga.

10. **Lodhra:** Kashaya, tikta rasa, Katuvipaka, Ushna veerya of Lodhra acts as Deepana, pachana and grahi. Lodhra also helpful in the management of pain in Grahani roga as Ethanolic extracts have shown its analgesic activity.

11. **Mocharasa:** Kashaya rasa, shita veerya and Katu vipaka of Mocharasa helps in Deepana and Pachana and also does stambhana. Chemical constituents like Mangiferin, 2-beta-D-glucopyranosyl-1,3,6,7-tetrahydroxy- 9H-xanthen-9-one have shown analgesic activity and tannic and gallic acids acting as astringents which precipitate proteins which helpful in restoring the damaged epithelial mucosal lining of intestine.

12. **Ksheera:** ksheera with its Madhura rasa, Madhura vipaka and Sheeta veerya pacifies Vata and Pitta dosha, it also helps in absorption of fat soluble active phytoconstituents present in the formulation. As there will be dourbalya in Grahani roga ksheera helps to nourish the dhatu and gives strength.

13. **Tila taila:** As said by Acharya Charaka, "Sneham eva Param vidhyat durbalanala deepanam" means Sneha is the best medicine for agnideepana. Taila with its ushna veerya does agni deepana and snigdha guna pacifies vata dosha.

Table 8 Showing phytoconstituents present in the ingredients of Bilva taila.

Sl.no	Drug	Phytoconstituents	Action
1	Bilva phala	4, 7, 8-trimethoxyfuroquinoline, Flavonoids	anti-diarrheal and anti-bacterial
2	Dhataki	Woodfordine A, B, and C	antidiarrheal
3	Kushta	Castol	anti-bacterial and anti-spasmodic
4	Shunti	Oleoresins, d- zingiberene	anti-inflammatory and antispasmodic
5	Rasna	triterpenes, sitosterol	anti-inflammatory, Analgesic
6	Punarnava	Ethnolic extracts	antistress
7	Devadaru	Himachalol	anti-spasmodic
8	Vacha	Methnolic extracts	Anti-spasmodic and Anti diarrheal
9	Musta	Cyprotuoside A and cyprotuoside B	Anti – stress
		Methanolic extracts	anti-diarrheal
10	Lodhra	Ehanolic extracts	Analgesic
11	Mocharasa	Mangiferin, 2-beta-D-glucopyranosyl-1,3,6,7-tetrahydroxy- 9H-xanthen-9-one	Analgesic
		tannic and gallic acids	Protection and repair of intestinal mucosa.

Effect of drug – Bilva taila

Snigdha and Ushna guna of Dravyas act on Ruksha and Sheeta guna of Vata and pacifies prakupita vata. As Bilva taila contains Deepana drugs they act on agni and does agni deepana. Pachana drugs in the Bilva taila act on the ama and does amapachana and pacifies shula. Grahi drugs of the taila act on the intestine and absorb the excess water content from the pureesha and reduces ati drava malapravrutti and Snigdha guna of taila pacifies Badda mala. Over all Nabhi basti improves Agni, does amapachana, reduces Dravamala, brings normalcy in the consistency of stool and hence does Samprapti vighatana of Vataja Grahani and helps in managing the disease. effect of different drugs of Bilva taila on Grahani roga are summarized below.

Conclusion

- Grahani roga is one among astamahagada with impaired functioning of Agni, Samana vata, Apana vata leading to the dusti Annavaha, Purishavaha srotas. Leading to the symptoms like Muhur badda, Muhar drava, Tanvama, Sa Shabda phena mala pravrutti.
- It is observed that, there is a close resemblance in Signs and symptoms of Vataja grahani and Irritable bowel syndrome. IBS is a psychosomatic disease which causes drastic reduction in quality of life. Based on the nature of the disease and Pathology involved, nabhi basti was used for the study in the management of Vataja grahani roga. During the study significant reduction in Dravamala pravrutti, Ama mala pravarutti, Baddamala pravrutti, Admana and Udara shula were obsereved. Most of the subjects attained agni deepti, Samyak mala pravrutti.
- Nabhi basti with Bilva taila showed significant improvement in signs and symptoms of Vataja grahani roga.
- Nabhi basti is a cost effective, safe and effective procedure in Vataja grahani.
- Based on the outcome of the study we can adopt Nabhi basti in the management of Vataja grahani.
- Hence null hypothesis i.e., Nabhi basti is not effective in the management of vataja grahani is rejected and Alternate hypothesis i.e., Nabhi basti is effective in the management of Vataja grahani is accepted.

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