



## CLINICAL STUDY OF EFFICACY OF VATSAKADI YOGA IN PRAVAHIKA

Santosh Irayya Swami<sup>1\*</sup>, Vrushali V. Dakhode<sup>2</sup>

<sup>1</sup>Associate Professor, Dept. of Kayachikitsa, <sup>2</sup>Associate Professor and Head of Department, Panchakarma Department, MES Ayurved Mahavidyalaya, Ghanekhunt-Lote, Tal- Khed, Dist- Ratnagiri, Maharashtra, India.

### ABSTRACT

**Background:** Today's busy scheduled and fast lifestyle is prone for many gastrointestinal disorders. People use to take fast food, junk food. Also due to lack of exercise and sedentary work digestion tends to be hampered. Mental stress is also one of the main reason behind it. *Pravahika* (Amoebiasis) is one of the major disease of gastrointestinal tract. Due to *Nitya hetusevana* (aetiological factors), *Pravahika* recurrence is more although antibiotics are widely and routinely used for its management. In Ayurveda various modalities are given but *Vatsakadi yoga* is supposed to give major relief with respect to signs and symptoms of *Pravahika*. **Aim:** To evaluate the efficacy of *Vatsakadi yoga* in *Pravahika*. **Materials and Methods:** It was an open randomized parallel group trial. Total 30 patients were treated out of which 15 patients were treated with *Vatsakadi yoga* and 15 patients with standard drug *Balbilva choorna*. **Results & Conclusion:** Individually both groups have given relief in cardinal signs and symptoms of *Pravahika*. While comparing, it was also statistically proved that *Vatskadi yoga* is more effective in the management of *Pravahika* than *Balbilva choorna* with respect to signs and symptoms of *Pravahika*.

**KEYWORDS:** *Pravahika*, Amoebiasis, *Vatsakadi yoga*, *Balbilva choorna*.

### INTRODUCTION

Today's life is busy scheduled and fast styled life. People do not have enough time to pay attention to their food and habits. They use to take fast food, junk food, ready food which is more oily, spicy and contaminated. Also use of cold drinks and carbonated beverages causes gastrointestinal upsets. Due to heavy physical and mental work they have more physical and mental stress and also disturbances in sleep. So they suffer from variety of diseases esp. gastrointestinal disorders. *Pravahika* is one of these diseases. Prolonged and frequent use of antibiotics and other modern drugs acting on GI tract causes loss of appetite, acidity and many other side effects. I have seen many patients of *Pravahika* having better response to Ayurvedic treatment in our institute.

*Pravahika* is described in Ayurvedic texts by various Acharyas. It is specially described in *Sushrut Samhita*<sup>[1]</sup> and *Ashtang Hridayam*.<sup>[2]</sup> It is included in *Kaphaja Atisara* by Acharya Charaka.<sup>[3]</sup> Various methods used in the treatment of *Pravahika* are; *Bheshaja*, *Basti* etc. Urgency and frequency of defecation, *Sakapha malapravrutti*, *Abdominal pain*, *Pravahanam* (Tenesmus), *Krutepe akrot saudnyata*, *Daurbalya*, *Aruchi*, *Avipak*, *Ghani*, *Angasad*<sup>[4]</sup> are the symptoms observed in *Pravahika*. *Vatsakadi yoga*<sup>[5]</sup> is described in *Sushrut Samhita* (*Uttar tantra 40/154*).

It may be correlated with Amoebiasis<sup>[6,7,8]</sup> according to modern science. Hence considering above facts this study was planned with aim and objectives to evaluate the efficacy of *Vatsakadi yoga* in the management of *Pravahika*.

**Aim and Objectives:** To evaluate the efficacy of *Vatsakadi yoga* in the management of *Pravahika*.

### Materials and Methods

#### Study population

Patients fulfilling the criteria for the diagnosis of the disease were registered for the present study between the age group of 10 to 50 years irrespective of sex, religion, occupation etc. 30 patients were selected from outpatient department of *Kayachikita*, S S N Jain Rugnalaya, Solapur. They were divided into two equal groups randomly.

#### Sample frame

**a. Study design:** Randomized clinical trial

**b. Sample size:** 30 patients (15 in each group)

**c. Period of study:** 18 months

**d. Selection of patients:** As per inclusion and exclusion criteria.

**e. Study setting:** SSN Jain Rugnalaya, Solapur, Maharashtra.

#### Criteria for Diagnosis

The criteria of the diagnosis were mainly based on signs and symptoms of *Pravahika*. The detailed systemic examination was carried out. In support, pathological examination like CBC and Stool examination were carried out for diagnosis and to ensure results.

#### Criteria for selection of patients

##### Inclusion criteria

Patients between the age group of 10 to 50 years having cardinal signs and symptoms like Urgency and frequency of defecation, *Sakapha malapravrutti*, *Abdominal pain*, *Pravahanam* (Tenesmus), *Krutepe akrot saudnyata*, *Daurbalya*, *Aruchi*, *Avipak*, *Ghani*, *Angasad* were selected for the study.

**Exclusion criteria**

Children below 10 years and old age above 50 years, patients with *Gudabhransha* (Rectal prolapse) and other chronic intestinal pathologies were excluded.

**Laboratory Investigations**

CBC, Stool examination and *Mala parikshanam*<sup>[9]</sup> (according to Ayurveda).

**Drug preparation**

*Vatsakadi yoga* was prepared in the pharmacy of S S N Jain Rugnalaya, Solapur, by mixing equal parts of fine *choorna* of ingredients that means *Patha* (*Cissampelou pareira*), *Ajmoda* (*Carum roxburghianum*), *Kutaja* (*Holarrhena antidysenterica*), *Shunthi* (*Zinziber officinale*), *Pippali* (*Piper longum*) and *Nilkamal* (*Nymphaea lotus*).

**Drug intervention****Group A (Experimental)**

Patients were treated with *Vatsakadi yoga* with the dose of 1gm thrice a day before meal with *Anupan* of *Koshna jal* for 35 days. Follow up on every 7<sup>th</sup> day was scheduled.

**Group B (Standard)**

Patients were treated with *Balbilva choorna* (*Aegle marmelos*) with the dose of 1gm thrice a day before meal with *Anupan* of *Koshna jal* for 35 days. Follow up on every 7<sup>th</sup> day was scheduled.

**Criteria for Assessment**

Both pre and post assessments of the patients were done on the basis of clinical symptoms<sup>[10]</sup>-

- *Pravahanam* (Tenesmus)
- *Malapravrutti Samkhya/Vega* (Frequency of defecation)
- *Malapravrutti Matra* (Stool quantity)
- *Pureesha Swaroop* (Consistency)
- *Sashonit Malapravrutti* (Presence of blood in stool)
- *Udarshool* (Abdominal pain)
- *Agnimandya* (Loss of appetite)
- *Udar sparshasahatva* (Abdominal tenderness)

**Assessment parameters Gradation with score****Pravahanam**

**Grade-(0)** - No *Pravahana*

**Grade-(+)** - *Alpa sashool pravahana* with some quantity of *mala* (*Alpa malapravrutti*)

**Grade-(++)** - Tolerable *Sashool pravahan* with every *Malapravrutti*

**Grade - (+++)** Nontolerable *Sashool pravahan* with every *Malapravrutti*

**Malapravrutti Samkhya/Vega/Frequency of defecation**

**Grade-(0)** -0,1 or 2 Daily

**STATISTICAL ANALYSIS AND INTERPRETATION**

The subjective criteria were assessed before treatment and after treatment. The data obtained in clinical study is subjected to statistical test and analyzed in two parts as;

1. Unpaired 't' test applied for *Malapravrutti samkhya* (Frequency of defecation)<sup>[11]</sup>
2. Percentage of improvement in each parameter of each scale is calculated

**Grade-(+)** -3 to 6 Daily

**Grade-(++)** -7 to 12 Daily

**Grade-(+++)** -13 or more than that-Daily

**Malapravrutti Matra**

**Grade-(0)** -*Prakrut*

**Grade-(+)** -Less than *Prakrut* but more than *alpamatra*

**Grade-(++)** -*Alpamatra*

**Grade-(+++)** -*Atyalpa* or no *Pureesha* (only *Kapha* present)

**Pureesha Swaroop (Consistency)**

**Grade-(0)** -Without *Shleshma* / *Prakrut*

**Grade-(+)** -*Sashleshma malapravrutti* in some of the *Vegas*

**Grade-(++)** -Every *Vega* of *Malapravrutti* is *Sashleshma* but *Shleshma* is *Alpa*.

**Grade-(+++)** - Every *Vega* of *Malapravrutti* is *Sashleshma* with more *Shleshma* and *Alpa pureesha*.

**Sashonit Malapravrutti (Presence of blood in stool)**

**Grade-(0)** -Absence of *Rakta*

**Grade-(+)** -*Alpa matra* of *Rakta* present in some *Vegas* of *Malapravrutti*.

**Grade-(++)** - *Alpa matra* of *Rakta* present in every *Vegas* of *Malapravrutti*.

**Grade-(+++)** - *Bahu matra* of *Rakta* present in every *Vegas* of *Malapravrutti*.

**Udarshool / Abdominal pain**

**Grade-(0)** -No Abdominal pain

**Grade-(+)** -*Alpa udarshool* only at the time of *Malapravrutti*

**Grade-(++)** -Tolerable *Udarshool* present at the time of *Malapravrutti* and between the two *Vegas* of *Malapravrutti*.

**Grade-(+++)** - Persistent and nontolerable *Udarshool* present. Worst at the time of every *Malapravrutti*.

**Agnimandya**

**Grade-(0)** -*Prakrut* / *Udarlaghavata* within 3 hrs. after meal

**Grade-(+)** - *Udarlaghavata* within 4 hrs. after meal

**Grade-(++)** - *Udarlaghavata* within 6 hrs. after meal

**Grade-(+++)** - No *Udarlaghavata* after meal

**Udar sparshasahatva (Abdominal tenderness)**

**Grade-(0)** -Absent

**Grade-(+)** - Tenderness with *Ati udarpeedan*-Deep tenderness

**Grade-(++)** - Tenderness with *Alpa udarpeedan*-Superficial tenderness

**Grade-(+++)** - Severe tenderness. Patient do not allow to touch the abdomen

**Criteria for the Assessment of the total effect of the therapy****Statistical Analysis**

| Group | X  | X <sup>2</sup> | N  | (X- X*) <sup>2</sup> | S.D. | S.E.  | T <sub>28</sub> |
|-------|----|----------------|----|----------------------|------|-------|-----------------|
| A     | 88 | 549            | 15 | 32.8                 | 1.77 | 0.646 | 4.33            |
| B     | 46 | 196            | 15 | 54.93                |      |       |                 |

At t<sub>28</sub> d.f. the highest obtainable value of 't' at 0.1% level of significance is 3.67 as found on reference to 't' table.

Calculated 't' value =4.33

Table 't' value =3.67

Hence p<0.001

Thus we reject null hypothesis of no difference. Hence study is statistically significant. So there is no doubt that *Vatsakadi yoga* is highly effective.

**Table 1: Showing percentage of the effect of treatments on Pravahanam**

| Group | Effect of treatment on Pravahanam |
|-------|-----------------------------------|
| A     | 93.33%                            |
| B     | 66.66%                            |

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analysed that % of efficacy of treatment in Group A was 93.33% while in Group B it was 66.66% which suggest that *Vatsakadi yoga* is more effective than *Balbilva choorna* in relieving *Pravahanam*.

**Table 2: Showing percentage of the effect of treatments on Malapravrutti Samkhya/ Vega/Frequency of defecation**

| Group | Effect of treatment on Malapravrutti Samkhya/ Frequency of defecation |
|-------|---|
| A     | 93.33%  |
| B     | 40%   |

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analysed that % of efficacy of treatment in Group A was 93.33% while in Group B it was 40% which suggest that *Vatsakadi yoga* is more effective than *Balbilva choorna* in relieving frequency of defecation.

**Table 3: Showing percentage of the effect of treatments on Malapravrutti Matra**

| Group | Effect of treatment on Malapravrutti Matra |
|-------|--|
| A     | 73.33%                                     |
| B     | 66.66%                                     |

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analysed that % of efficacy of treatment in Group A was 73.33% while in Group B it was 66.66% which suggest that *Vatsakadi yoga* is more effective than *Balbilva choorna* in relieving *Alpalpa malapravrutti*.

**Table 4: Showing percentage of the effect of treatments on Pureesha Swaroop (Consistency)**

| Group | Effect of treatment on Pureesha Swaroop (Consistency) |
|-------|---|
| A     | 66.66%  |
| B     | 53.33%  |

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analysed that % of efficacy of treatment in Group A was 66.66 % while in Group B it was 53.33% which suggest that *Vatsakadi yoga* is more effective than *Balbilva choorna* in relieving *Sashleshma malapravrutti*.

**Table 5: Showing percentage of the effect of treatments on Sashonit Malapravrutti (Presence of blood in stool)**

| Group | Effect of treatment on Sashonit Malapravrutti |
|-------|---|
| A     | 100%  |
| B     | 42.49%  |

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analysed that % of efficacy of treatment in Group A was 100 % while in Group B it was 42.49% which suggest that *Vatsakadi yoga* is more effective than *Balbilva choorna* in relieving *Sashonit malapravrutti*.

**Table 6: Showing percentage of the effect of treatments on Udarshool / Abdominal pain**

| Group | Effect of treatment on Udarshool |
|-------|----------------------------------|
| A     | 66.66%                           |
| B     | 60%                              |

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analysed that % of efficacy of treatment in Group A was 66.66 % while in Group B it was 60% which suggest that *Vatsakadi yoga* is more effective than *Balbilva choorna* in relieving *Udarshool*.

**Table 7: Showing percentage of the effect of treatments on Agnimandya**

| Group | Effect of treatment on Agnimandya |
|-------|-----------------------------------|
| A     | 73.33%                            |
| B     | 66.66%                            |

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analysed that % of efficacy of treatment in Group A was 73.33 % while in Group B it was 66.66% which suggest that *Vatsakadi yoga* is more effective than *Balbilva choorna* in relieving *Agnimandya*.

**Table 8: Showing percentage of the effect of treatments on Udar sparshasahatva (Abdominal tenderness)**

| Group | Effect of treatment on Udar sparshasahatva |
|-------|--|
| A     | 66.66%                                     |
| B     | 60%  |

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analysed that % of efficacy of treatment in Group A was 66.66 % while in Group B it was 60% which suggest that *Vatsakadi yoga* is more effective than *Balbilva choorna* in relieving *Udar sparshasahatva*.

## RESULTS AND DISCUSSION

As per the assessment criteria *Krutepi Akrut Saudnyata*, *Pravahanam*, *Malapravrutti Samkhya/Vega*/Frequency of defecation, *Malapravrutti Matra*, *Pureesha Swaroop* (Consistency), *Sashonit Malapravrutti* (Presence of blood in stool), *Udarshool/Abdominal pain*, *Agnimandya*, *Udar sparshasahatva* (Abdominal tenderness) *Vatsakadi yoga* and *Balbila choorna* were found to be statistically and clinically effective in all parameters taken for assessment.

**Table 9: overall effect of therapy**

| Groups  | Improvement                             |                                       |   |                                     |                               |
|---------|---|---------------------------------------|---|-------------------------------------|-------------------------------|
|         | No. of patients with complete remission | No. of Markedly improved patients (%) | No. of Moderately improved patients (%) | No. of Mildly improved patients (%) | No. of unchanged patients (%) |
| Group A | 0                                       | 12 (80%)                              | 02 (13.33%)                             | 01 (6.66%)                          | 0                             |
| Group B | 0                                       | 05 (33.33%)                           | 05 (33.33%)                             | 05 (33.33%)                         | 0                             |

However considering overall results, as presented in table no. 8 we can see that *Vatsakadi yoga* (combination of *Patha*, *Ajmoda*, *Shunthi*, *Pippali*, *Kutaj* and *Nilkamal*) was found to be more effective in relieving signs and symptoms of *Pravahika* as compared to *Balbilva choorna* alone.

The probable reason why the combination of *Vatsakadi yoga* became more beneficial than single *Bilva choorna* was the synergistic action of the contents. Drugs in the yoga have *Vataghna*, *Kaphaghna*, *Pittaghna*, *Deepan-Pachan*, *Amapachan*, *Shoolhar*, *Vatanuloman*, *Rakta-stambhan*, *Anuloman*, *Shothahar*, *Krimighna* and *Jwaraghna* properties.<sup>[12]</sup> So when used *Vatsakadi yoga* as a main treatment, it is more effective clinically as well as statistically.

## CONCLUSIONS

*Pravahika* is one of the commonest diseases of *Annavaha* and *Pureeshvaha srotasas* (Gastro intestinal tract). It produces various signs and symptoms due to vitiation of mainly *Kledak kapha* and *Apan Vayu* with *Anubandh* of *Pachak pitta*. It is *Ashukari* (acute) *Vyadhi* (disease) producing excessive weakness and *Rasakshaya* if not treated within proper time. Treatment responses of all the parameters were highly significant in experimental Group than Standard Group. *Vatsakadi yoga* is combination of *Patha*, *Ajmoda*, *Shunthi*, *Pippali*, *Kutaj* and *Nilkamal* and synergistic action of this combination is more effective clinically and statistically in reducing signs and symptoms of *Pravahika* than only *Balbilva choorna* which is a standard drug taken for the study for comparison.

This study proves that *Vatsakadi yoga*, described in *Sushrut Samhita*, is very beneficial for treatment of *Pravahika*.

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**\*Address for correspondence**

**Dr. Santosh I. Swami**

Associate Professor  
Dept. of Kayachikitsa,  
MES Ayurved Mahavidyalaya,  
Ghanekhunt-Lote, Tal-Khed,  
Ratnagiri, Maharashtra-India  
Email:

[santoshswami2009@gmail.com](mailto:santoshswami2009@gmail.com)

Ph: +919422957234

+917768991212

