CLINICAL STUDY OF EFFICACY OF VATSAKADI YOGA WITH AND WITHOUT ANULOMAN IN PRAVAHIKA

Santosh Irayya Swami¹, Vrushali Vijay Dakhode²

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

ABSTRACT

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 reasons behind it. Pravahika (Amoebiasis) is one of the major diseases of gastrointestinal tract. Due to nityahetusevana (aetiological factors), Pravahika recurrence is more although antibiotics are widely and routinely used for its management. In Ayurveda various modalities are given but Anuloman is described as sampraptipratyanikupakrama (to breakdown pathology) and Vatsakadi yoga is supposed to give major relief with respect to signs and symptoms of Pravahika. Aim of this study was to evaluate the efficacy of Vatsakadi yoga with and without Anuloman in Pravahika. It was an open randomized parallel group trial. Total 30 patients were treated out of which 15 patients were treated with Anuloman (Ashwagolchoorna) for four days followed by Vatsakadi yoga while 15 patients were treated with only Vatsakadi yoga. Individually both groups have given relief in cardinal signs and symptoms of Pravahika. While comparing, it was also statistically proved that Anuloman followed by Vatsakadi yoga is more effective in the management of Pravahika than only Vatsakadi yoga with respect to signs and symptoms of Pravahika. Keywords: Pravahika; Amoebiasis; Vatsakadi yoga; Anuloman; Ashwagolchoorna

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 de-
scribed in *Sushrut Samhita*[^1] and *Ashtanga Hridayam*[^2] It is included in *Kapaha Atisara* by Acharya *Charaka*[^3] Various methods used in the treatment of *Pravahika* are; *Bheshaja, Basti* etc. Urgency and frequency of defaecation, *Sakaphama malapravutti, Abdominal pain, Pravahanam* (Tenesmus), *Krutepiakrusaudnyata, Daurbalya, Aruchi, Avipak, Glani, Angasad*[^4] are the symptoms observed in *Pravahika* *Anuloman* is described in *Pravahika* as a *Sampraptipratyanik Upakrama* (To breakdown pathology). *Vatsakadi yoga*[^5] is described in *Sushrut Samhita* (Uttar tantra 40/154). It may be correlated with Amoebiasis[^6,7,8] according to modern science. Hence considering above facts this study was planned with aim and objectives to evaluate the efficacy of *Vatsakadi yoga* with and without *Anuloman* in the management of *Pravahika*.

**Aim and Objectives:** To evaluate the efficacy of *Vatsakadi yoga* with and without *Anuloman* 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 out-patient department of *Kayachikita*, S S N Jain Rugnalaya, Solapur. They were divided into two equal groups randomly.

#### Sample frame

- **Study design:** Randomized clinical trial
- **Sample size:** 30 patients (15 in each group)
- **Period of study:** 18 months

- **Selection of patients:** As per inclusion and exclusion criteria
- **Study setting:** S S N 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 defaecation, *Sakaphamalapravutti, Abdominal pain, Pravahanam* (Tenesmus), *Krutepiakrusaudnyata, Daurbalya, Aruchi, Avipak, Glani, 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*[^9] (according to Ayurveda)

#### Drug preparation

*Ashwagolchoorna* (Plantagoovata) available in S S N Jain Rasashala, Solapur was used as *Anuloman*. *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* (Cissampeloepareira), *Ajmoda* (Carumroxburghianum), *Kutaja* (Holarrhenaantidysenterica), *Shunthi* (Zinziberofficinale), *Pippali* (Piper longum) and *Nilkamal* (Nymphaea lotus).
Drug intervention

**Group A**
Patients were treated with *Ashwagol choorna* with a dose of 5gm per day at bed time with *anupan* of *koshnajal* for four days prior to start of *shaman* treatment. Then *Vatsakadi yoga* with the dose of 1gm thrice a day before meal with *anupan* of *koshnajal* for 35 days. First follow up was scheduled after 04 days and next follow up on every 7th day was scheduled.

**Group B**
Patients were treated only with *Vatsakadi yoga* with the dose of 1gm thrice a day before meal with *anupan* of *koshnajal* for 35 days. Follow up on every 7th day was scheduled.

Criteria for Assessment
Both pre and post assessments of the patients were done on the basis of clinical symptoms.

- **Pravahanam** (Tenesmus)
- **Malaprauvruttisamkhya / Vega** (Frequency of defaecation)
- **MalaprauvruttiMatra** (Stool quantity)
- **PureeshaSwaroop** (Consistency)
- **SashonitMalaprauvruttii** (Presence of blood in stool)
- **Udarshool** (Abdominal pain)
- **Agnimandya** (Loss of appetite)
- **Udaraprasahasatva** (Abdominal tenderness)

Assessment parameters Gradation with score:
- **Pravahanam**
  - Grade-(0) - No Pravahana
  - Grade-(+) - Alpasashoolpravahan with some quantity of mala (Alpamalaprauvruttii)
  - Grade-(++) - Tolerable sashoolpravahan with every malaprauvruttii
  - Grade-(+++): Non-tolerable sashoolpravahan with every malaprauvruttii
- **Malaprauvruttisamkhya / Vega / Frequency of defaecation**
  - Grade-(0) - 0.1 or 2 Daily
  - Grade-(+) - 3 to 6 Daily
  - Grade-(++) - 7 to 12 Daily
  - Grade-(+++): 13 or more than that-Daily
- **MalaprauvruttiMatra**
  - Grade-(0) - Prakrut
  - Grade-(+) - Less than prakrut but more than alpamatra
  - Grade-(++) - Alpamatra
  - Grade-(+++): Atyalpaor no pureesha (only kapha present)
- **PureeshaSwaroop** (Consistency)
  - Grade-(0) - Without shleshma / Prakrut
  - Grade-(+) - Sashleshmamalaprauvruttii in some of the Vegas
  - Grade-(++) - Every Vega of malaprauvruttii is sashleshma but shleshmaalpapureesha
  - Grade-(+++): Every Vega of malaprauvruttii is sashleshma with moreshleshmaandalpapureesha
- **SashonitMalaprauvruttii** (Presence of blood in stool)
  - Grade-(0): Absence of Rakta
  - Grade-(+) - Alpamatraof Rakta present in some Vegas of malaprauvruttii
  - Grade-(++) - Alpamatra of Rakta present in every Vegas of malaprauvruttii
  - Grade-(+++): Bahumatra of Rakta present in every Vegas of malaprauvruttii
- **Udarshool / Abdominal pain**
  - Grade-(0): No Abdominal pain
  - Grade-(+) - Alpaudarshool only at the time of malaprauvruttii
Grade-(++) - Tolerable *udarshool* present at the time of *malapraavruti* and between the two vegas of *malapraavruti*

Grade-(+++)- Persistent and no tolerable *udarshool* present. Worst at the time of every *malapraavruti*

- **Agnimandya**
  Grade- (0) - *Prakrut / Udarlaghavata* within 3 hours after meal
  Grade- (+) - *Udarlaghavata* within 4 hours after meal
  Grade- (++) - *Udarlaghavata* within 6 hours after meal
  Grade-(+++)- No *Udarlaghavata* after meal

- **Udarsparshasahatva** (Abdominal tenderness)
  Grade-(0) - Absent
  Grade-(+) - Tenderness with *Atiudarpeedan* - Deep tenderness
  Grade- (+++) - Tenderness with *Alpaudarpeedan* - Superficial tenderness
  Grade- (++++) - Severe tenderness. Patient do not allow to touch the abdomen

**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 *malapraavruti*-*samkhya* (Frequency of defecation) \[^{[11]}\]
2. Percentage of improvement in each parameter of each scale is calculated

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

**Statistical Analysis**

<table>
<thead>
<tr>
<th>Group</th>
<th>X</th>
<th>X²</th>
<th>N</th>
<th>(X-X̅)²</th>
<th>S.D.</th>
<th>S.E.</th>
<th>T²</th>
<th>28</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>95</td>
<td>621</td>
<td>15</td>
<td>19.34</td>
<td>1.36</td>
<td>0.49</td>
<td>0.71</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>88</td>
<td>549</td>
<td>15</td>
<td>32.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

At $t_{28}$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 =0.71

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* with and without *Anuloman* is highly effective.

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

<table>
<thead>
<tr>
<th>Group</th>
<th>Effect of treatment on Pravahanam</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100%</td>
</tr>
<tr>
<td>B</td>
<td>93.33%</td>
</tr>
</tbody>
</table>

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analyzed that % of efficacy of treatment in Group A was 100% while in Group B it was 93.33% which suggest that *Vatsakadi yoga* with *Anuloman* is more effective than only *Vatsakadi yoga* in relieving Pravahana.

**Table 2: Showing percentage of the effect of treatments on Malapraavruti Samkhya / Vega / Frequency of defaecation**

<table>
<thead>
<tr>
<th>Group</th>
<th>Effect of treatment on Malapraavruti Samkhya / Vega / Frequency of defaecation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100%</td>
</tr>
</tbody>
</table>
While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analyzed that % of efficacy of treatment in Group A was 100% while in Group B it was 93.33% which suggest that Vatsakadi yoga with Anuloman is more effective than only Vatsakadi yoga in relieving frequency of defecation.

Table 3: Showing percentage of the effect of treatments on MalaprarvuttiMatra

<table>
<thead>
<tr>
<th>Group</th>
<th>Effect of treatment on MalaprarvuttiMatra</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100%</td>
</tr>
<tr>
<td>B</td>
<td>73.33%</td>
</tr>
</tbody>
</table>

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analyzed that % of efficacy of treatment in Group A was 100% while in Group B it was 73.33% which suggest that Vatsakadi yoga with Anuloman is more effective than only Vatsakadi yoga in relieving Alpalpa-malaprarvutti.

Table 4: Showing percentage of the effect of treatments on PureeshaSwaroop (Consistancy)

<table>
<thead>
<tr>
<th>Group</th>
<th>Effect of treatment on PureeshaSwaroop (Consistancy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100%</td>
</tr>
<tr>
<td>B</td>
<td>66.66%</td>
</tr>
</tbody>
</table>

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analyzed that % of efficacy of treatment in Group A was 100% while in Group B it was 66.66% which suggest that Vatsakadi yoga with Anuloman is more effective than only Vatsakadi yoga in relieving Sashleshma-malaprarvutti.

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

<table>
<thead>
<tr>
<th>Group</th>
<th>Effect of treatment on SashonitMalaprarvutti</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100%</td>
</tr>
<tr>
<td>B</td>
<td>100%</td>
</tr>
</tbody>
</table>

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analyzed that % of efficacy of treatment in Group A was 100% while in Group B it was 100% which suggest that Vatsakadi yoga with Anuloman is more effective than only Vatsakadi yoga in relieving Sashonitmalaprarvutti.

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

<table>
<thead>
<tr>
<th>Group</th>
<th>Effect of treatment on Udarshool</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100%</td>
</tr>
<tr>
<td>B</td>
<td>66.66%</td>
</tr>
</tbody>
</table>

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analyzed that % of efficacy of treatment in
Group A was 100% while in Group B it was 66.66% which suggest that Vatsakadi yoga with Anuloman is more effective than only Vatsakadi yoga in relieving Udarshool.

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

<table>
<thead>
<tr>
<th>Group</th>
<th>Effect of treatment on Agnimandya</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>80%</td>
</tr>
<tr>
<td>B</td>
<td>73.33%</td>
</tr>
</tbody>
</table>

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analyzed that % of efficacy of treatment in Group A was 80% while in Group B it was 73.33% which suggest that Vatsakadi yoga with Anuloman is more effective than only Vatsakadi yoga in relieving Agnimandya.

Table 8: Showing percentage of the effect of treatments on Udarsparhasahatva (Abdominal tenderness)

<table>
<thead>
<tr>
<th>Group</th>
<th>Effect of treatment on Udarsparhasahatva</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100%</td>
</tr>
<tr>
<td>B</td>
<td>93.33%</td>
</tr>
</tbody>
</table>

While comparing Group A with Group B on the bases of % of efficacy of treatment after the whole course of treatment it was analyzed that % of efficacy of treatment in Group A was 100% while in Group B it was 93.33% which suggest that Vatsakadi yoga with Anuloman is more effective than only Vatsakadi yoga in relieving Udarsparhasahatva.

RESULTS AND DISCUSSION

As per the assessment criteria Krutepi-AkrutSaudnyata, Pravahanam, MalaprarvrittiSamkhya / Vega / Frequency of defaecation, MalaprarvrittiMatra, PutreeshaSwaroop (Consistancy), Sashonit Malaprarvritti (Presence of blood in stool), Udarshool / Abdominal pain, Agnimandya, Udarsparhasahatva (Abdominal tenderness) Vatsakadi yoga with and without Anuloman were found to be statistically and clinically effective in all parameters taken for assessment.

Table 9: overall effect of therapy

<table>
<thead>
<tr>
<th>GROUPS</th>
<th>IMPROVEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of patients with complete remission</td>
</tr>
<tr>
<td>Group A</td>
<td>0</td>
</tr>
<tr>
<td>Group B</td>
<td>0</td>
</tr>
</tbody>
</table>

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) with Anuloman (Ashwagolchoorna) was found to be more effective in relieving signs and symptoms of Pravahika as compared to Vatsakadi yoga alone.
Action of Ashwagolchoorna as Anuloman (purgative) in Pravahika is due to effect of not containing any nutritional part in it. It completely reaches into the large intestine and increases the amount of stool. It swells because it absorbs water in the intestine. So, that its amount is further increased. Because of increased amount/ quantity of stool, it stimulates large intestine and increases peristalsis movement. Thus in this way it helps to defecate the stool. Due to snigdha and picchil properties it reduces antrarukshata and does vranaropan karma. It is proved that it inhibits growth of protozoa, absorbs its toxins and reduces paka of sleshmadharakala. Seeds are demulcent, cooling, diuretic, used in inflammatory conditions of mucous membrane of gastrointestinal tract, genitourinary tract, in chronic dysentery, diarrhoea and constipation (glossary of Indian medicinal plants, Dr, R. N. Chopra)\textsuperscript{13,14,15}

The probable reason why the combination of Vatsakadi yoga became more beneficial was the synergistic action of the contents. Drugs in the yoga have Vataghna, Kaphaghna, Pittaghna, Deepan-Pachan, Amapachan, Shoolhar, Vatanuloman, Rakta stambhan, Anuloman, Shoithahar, Krimighna and Jwarraghna properties\textsuperscript{12}. So when used Vatsakadi yoga as a main treatment with Anuloman 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 Kledakkapha 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. Ashwagolchoorna as Anuloman is very effective to breakdown pathology and help to defecate the stool without Pravahanam. Vatsakadi yoga is combination of Patha, Ajmoda, Shunthi, Pippali, Kutajand-Nilkamaland synergistic action of this combination with Anuloman is more effective clinically and statistically in reducing signs and symptoms of Pravahika than only Vatsakadi yoga.

This study proves that Anulomanchikitsa described in various Samhitas is actually sampraptipratyanik and Vatsakadi yoga, described in Sushrut Samhita, is very beneficial for treatment of Pravahika.

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CORRESPONDING AUTHOR
Dr. Santosh I. Swami
Associate Professor,
Dept. of Kayachikitsa,
MES Ayurved Mahavidyalaya,
Ratnagiri, Maharashtra, India
Email: santoshswami2009@gmail.com

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