ABSTRACT

Today most of the non-communicable diseases have higher prevalence. Obesity is one of them. There is no satisfactory treatment available in conventional system. Thus, the global population is enthusiastically looking towards effective natural remedies. Acharya Charaka emphasized on the use of Ruksha, Ushna & Tikhsna Basti and the use of drugs like Guduchi, Bhadramusta, Triphala, etc. as treatment of Obesity. Aim and Objectives: To evaluate and compare the efficacy of Guduchyadi Yoga administered by orally as well as in the form of Basti in the management of Sthaulya (Obesity). Method: Out of 21 patients, total 20 patients i.e. 10 in each group were randomly divided in two groups and completed the course of therapy. In which group A, Guduchyadi Basti; and group B in which given Guduchyadi Ghanavati. Result: In this study we have found that Guduchyadi Basti has proven better than Guduchyadi Ghanavati in reducing weight & BMI; and also found more effective in almost all other subjective & objective parameters. Statistical Analysis: Wilcoxon’s Signed-Rank Test for subjective parameters, Students paired ’t’ test for objective parameters were conducted in this study.

KEYWORDS: Sthaulya, Obesity, Guduchyadi yoga, Basti.
spite of its treatment, the success of treatment is mysterious.\[^6\] Hence Acharya Charaka has featured this condition under *Nindita Purusha* (undesirable constitution).\[^7\] He also emphasized on the use of *Ruksha, Ushna & Tiksns Basti* and the use of the drugs like *Guduchi, Bhadramusta, Triphala* etc in the management of *Sthaulya* (Obesity).\[^8\]

**AIM AND OBJECTIVES**

To evaluate and compare the efficacy of *Guduchyadi Yoga* administered by orally as well as in the form of *Basti* in the management of *Sthaulya* (Obesity).

**Selection of Patients**

Patients fulfilling the criteria of *Sthaulya* (Obesity) from OPD & IPD of Panchakarma Dept. & cases referred by other departments of IPGT & RA hospital, G.A.U., Jamnagar were selected randomly with coin toss method irrespective of race, cast, sex, religion etc.

**Inclusion Criteria**

1. Patient having classical sign and symptoms of *Sthaulya* and Obesity.
2. Age-18-60 years
3. B.M.I->25 & <40
4. B.M.I. Prime->1.00

**Exclusion Criteria**

1. Patients having age less than 18 years & above 60 years.
2. Patients having serious cardiac, renal and hepatic diseases etc.
3. Patients having major illness like Diabetes Mellitus which is poorly controlled.
4. Patients having history of untreated thyroid disorders and uncontrolled Hypertension and other endocrine diseases.
5. Obesity due to drugs e.g. Anticonvulsant, antipsychotics, Beta-blockers, Corticosteroid.
7. Patients having BMI>40 were excluded.

**Investigations**

Routine haematological, biochemical and lipid profile before and after treatment were carried out.
Groups of Patients
Out of 21 patients, total 20 patients i.e. 10 patients in each group were randomly divided in two groups. 1 patient in Group B dropped out of the study without any specific reasons.

Group A: Guduchyadi Basti for 16 days. A new schedule of 16 days is adopted as per shown in (Table-1).

Niruha Basti: Makshika- (120gm), Saindhava- (6gm), Guduchyadi oil – (80ml), Putiyavani kalka- (40gm) and Guduchyadi kwatha- (240ml)
Anuvasana Basti: Guduchyadi oil – 80 ml

Group B: Guduchyadi Ghanavati (7g/day) was administered before meal in three divided doses with warm water for 30 days and follow up with 15 days.

Pathya-Apathya (Do’s and Don’ts): According to Ayurveda classics.

Assessment Criteria
Total Assessment was done on the basis of relief in the signs and symptoms as well as objective criteria weight, BMI, BMI Prime. The efficacy of the therapy was assessed before and after treatment on the basis of subjective as well as objective criteria.

RESULT
Guduchyadi Basti has shown 11.76% decrease in the visible movement in hip-abdomen-breast, 77.78% in dyspnoea on exertion, 65% in excess thirst, 50% in the excess hunger, 77.78% in the heaviness in body and 27.27% in the loss of libido. (Table-2) On statistical analysis highly significant & significant results were obtained in case of almost all the parameters. On comparing with Guduchyadi Ghanvati no significant difference was reported statistically (Table-3). Both the groups showed highly significant (p<0.001) results on BMI, BMI prime and Body weight in obesity patients (Table-4). Overall effect of therapy in Group A showed improvement in 70% and moderately improvement in 20% of the patients. Group B showed mildly improvement in 70% and improvement in 30% of the patients (Fig.1).

Table-1: Guduchi-Bhadramustadi Basti Schedule

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>Basti-Type</td>
<td>AN</td>
<td>NI</td>
<td>NI</td>
<td>NI</td>
<td>AN</td>
<td>NI</td>
<td>AN</td>
<td>NI</td>
<td>AN</td>
<td>NI</td>
<td>NI</td>
<td>NI</td>
<td>AN</td>
<td>NI</td>
<td>NI</td>
<td>AN</td>
</tr>
</tbody>
</table>

AN-Anuvasa basti, NI- Niruha basti.
Table-2: Effects on Sign and Symptoms of 10 patients of Group A

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Mean Score B.T.</th>
<th>Mean Score A.T.</th>
<th>Mean Dif.</th>
<th>% Change</th>
<th>“W”</th>
<th>“N”</th>
<th>“p”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angachalatva</td>
<td>1.89</td>
<td>1.67</td>
<td>0.22</td>
<td>11.76↓</td>
<td>3</td>
<td>2</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Atikshudha</td>
<td>3.56</td>
<td>1.78</td>
<td>1.78</td>
<td>50↓</td>
<td>45</td>
<td>9</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Atipipasa</td>
<td>2.5</td>
<td>0.875</td>
<td>1.625</td>
<td>65↓</td>
<td>21</td>
<td>6</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Alpavyavaya</td>
<td>2.2</td>
<td>1.6</td>
<td>0.6</td>
<td>27.27↓</td>
<td>6</td>
<td>3</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Kshudrasvasa</td>
<td>1.5</td>
<td>0.33</td>
<td>1.17</td>
<td>77.78↓</td>
<td>21</td>
<td>6</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Angagaurava</td>
<td>2.25</td>
<td>0.5</td>
<td>1.75</td>
<td>77.78↓</td>
<td>36</td>
<td>8</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

↓-Reduced, BT- Before treatment, AT- After treatment.

Table-3: Effects on Sign and Symptoms of 10 patients of Group B

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Mean Score B.T.</th>
<th>Mean Score A.T.</th>
<th>Mean Dif.</th>
<th>% Change</th>
<th>“W”</th>
<th>“N”</th>
<th>“p”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angachalatva</td>
<td>1.67</td>
<td>1.56</td>
<td>0.11</td>
<td>6.67↓</td>
<td>1</td>
<td>1</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Atikshudha</td>
<td>3.2</td>
<td>1.7</td>
<td>1.5</td>
<td>46.87↓</td>
<td>55</td>
<td>10</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Atipipasa</td>
<td>1.71</td>
<td>1</td>
<td>0.71</td>
<td>41↓</td>
<td>6</td>
<td>3</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Alpavyavaya</td>
<td>1.66</td>
<td>1.33</td>
<td>0.33</td>
<td>20↓</td>
<td>1</td>
<td>1</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Kshudrasvasa</td>
<td>1.2</td>
<td>0.4</td>
<td>0.8</td>
<td>66.67↓</td>
<td>6</td>
<td>3</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Angagaurava</td>
<td>2</td>
<td>1.33</td>
<td>0.67</td>
<td>33.33↓</td>
<td>3</td>
<td>2</td>
<td>&gt;0.05</td>
</tr>
</tbody>
</table>

↓-Reduced.

Table-4: Comparative effects of therapies on Weight, BMI, BMI Prime of patients of Obesity in Group A & Group B

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Mean Diff. Group A</th>
<th>Mean Diff. Group B</th>
<th>S.D.±</th>
<th>S.E.±</th>
<th>“t”</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (kg)</td>
<td>2.77</td>
<td>0.8</td>
<td>0.92</td>
<td>0.41</td>
<td>4.81</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>BMI (kg/m2)</td>
<td>1.108</td>
<td>0.317</td>
<td>0.37</td>
<td>0.17</td>
<td>4.76</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>BMI Prime</td>
<td>0.044</td>
<td>0.01</td>
<td>0.014</td>
<td>0.006</td>
<td>5.35</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
DISCUSSION

**Sthaulya** is a *Shleshma Nanatmaja Vyadhi.*[9] *Kapha Dosha* is associated mainly due to its *Ashrayashrayi Sambandha* (substance-subordinate relation) to *Meda.*[10] *Guduchyadi Basti* is basically *Shodhana* (bio-purification) type of *Basti*, especially due to its schedule. In *Bahudosha Avastha* which includes *Sthaulya,*[11] *Shodhana* from both root of administration is indicated. That increases Agni at all level & disease may cured.[12] It removes vitiated *Doshas* from whole body, thus causes[13] *Srotoshodhana.*[14] It makes the further removal of the *Doshas* from the body possible by its own. Hence breaks the *Samprapti* (pathogenesis) of *Obesity.* In *Guduchyadi Ghanvati,* contents i.e. *Guduchi, Musta, Triphala* etc. are having *Lekhaniya & Kapha medohara* properties. *Guduchi, Haritaki, Vidanga, Sunthi & Yavakshara* are having *Deepan Pachana & Anulomana* Properties which increases *Agni* thus it increase the *Dhatvagni,* digests the *Ama* in *Srotasa.* Predominant *Guna, Laghu Ruksha,* help to reduce *Kapha & Meda.* *Vipaka* of *Ghanavati* is *Madhura,* which reduces vitiated *Vata & Pitta* in *Kostha.*

CONCLUSION

*Sthaulya* (Obesity) is a *Dushya Dominant Vyadhi.* There is an involvement of all the three *Dosha* in *Sthaulya* but the vitiation of *Kapha* and *Meda* of prime importance. Line of treatment should be *Kapha-Vata-Meda Hara & Apatarpanakara.* *Guduchyadi Basti* offered better result overall in Comparison to *Guduchyadi Ghanavati.* *Ghanavati* has also showed good effect on *Sthaulya* but *Shodhana Chikitsa* is proved better statistically & symptomatologically *Guduchyadi Basti* was found to have significant effects in reducing the symptoms of *Sthaulya*(Obesity) and also in reduction of objective parameters like weight, BMI, BMI Prime etc.
REFERENCES
5. Kumar & Clark, Clinical Medicine, Obesity, 16th edi. Spain; Elsevier Saunders. 255-256.
6. Kumar & Clark, Clinical Medicine, Obesity, 16th edi. Spain; Elsevier Saunders.pp.257.
10. Ashtang Hridaya Su. 11/27, page no.186.
12. Charakasamhita sutrasthana 16/17, ibidem 7, pg,97.