TO EVALUATE THE EFFICACY OF VIRECHANA KARMA IN STHOULYA
W. S. R. TO OVERWEIGHT

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ABSTRACT

Sthaulya (Overweight and Obesity) is one among the major diseases of Modern era. In Modern era with continuous changing life styles and environment, changed diet habits, man has become the victim of many disease caused by unwholesome dietary habits and Obesity is one of them. In Ayurveda, Sthula purusha is considered as one of the nindita purusha. Acharya Charaka has explained the swastha purusha as sama mamsa, sama pramana, sama samhanana and having Dridha Indriyas, but sthula person is not having such qualities. Regarding this explanation is available in ayurvedic classics. Overweight and obesity has reached epidemic proportions in India in the 21st century affecting 5% of countries population. Virechana is one of the shodhana procedures, which expels morbid doshas and helps to maintain health of an individual, which can be done by virechana yoga using drugs like pippali, nagar, kshara (yavakshara) and shyama trivritta with madhu in the form of leha.

Objectives: To evaluate the efficacy of Virechana Karma in Sthaulya w.r.t to Overweight.

Methodology: This was a single blind clinical study with pre-test & post- test design where in 20 patients diagnosed as sthaulya of either sex & the patients fulfilling the criteria of undergoing the process of Virechana karma were selected. Results: Statistically significant results were obtained in Weight and BMI recordings. The values of skin fold thickness showed negligible improvement. Statistically significant results were obtained in the values of abdominal circumference but these results did not bring satisfaction to the patients as they expected more. Statistically significant results were obtained on Biochemical parameter of Lipids.

Keywords: Virechana karma, Sthaulya, Overweight.

INTRODUCTION

The Nature has taught the man how to be healthy before the science has discovered the laws of health. But, it is an irony of the fate that on the earth millions don’t get enough food and roam in a skeletal appearance while on the other hand, there are many more who, besides over eating lead a sedentary life to march towards an untimely death.

In Ayurveda, Sthula purusha is considered as one of the nindita purusha. Acharya Charaka has explained the swastha purusha as sama mamsa, sama pramana, sama samhanana and having Dridha Indriyas, but sthula person is not having such qualities. Regarding this explanation is available in ayurvedic classics.
Overweight and obesity has reached epidemic proportions in India in the 21st century affecting 5% of countries population. Approximately 1.6 billion adults of age above 15 years are overweight, at least 400 million adults are obese and by 2015 approximately 2.3 billion adults will be overweight and more than 700 million will be obese.

Overweight and obesity can be compared with sthaulya. Which is one of the Santarpanottha vyadhi and line of treatment for it is apatarpana and langhana, which can be done by shodhana and shamana.

Virechana is one of the shodhana procedures, which expels morbid doshas and helps to maintain health of an individual, which can be done by virechana yoga using drugs like pippali, nagar, kshara (yavakshara) and shyama trivritta with madhu in the form of leha.

Thus considering above facts this study “A clinical study to evaluate the efficacy of Virechana karma in Sthaulya wsr to Overweight” was being planned.

**Methodology**

**Selection of patients & methods**

This was a single blind clinical study with pre-test & post- test design where in 20 patients diagnosed as sthaulya of either sex & the patients fulfilling the criteria of undergoing the process of Virechana karma were selected.

Total duration of the study: 43 – 55 days

**Inclusion criteria** -
- Subjects who are fit for Virechana karma.
- Patients diagnosed as sthaulya.
- Age: 16 – 60yr.
- BMI (kg/m²)≥25-29.9

**Exclusion criteria** -
- Subjects who were not fit for Virechana Karma.
- Subjects with other primary systemic disease.

**Poorvakarma:** Dipana-pachana: carried out with Shunthi kwatha for a period of 3-7 days.

**Snehana:** The Murchit Gritha was given to all the 20 patients. The initial dose was 25ml (Hrisiyasi matra) with Luke warm water in early morning, after the digestion of the last night meal. Then patient was continuously observed for appearance of Sneha Jeeryaman, Sneha Jeerna features. Based on the time of Snehajeerna lakshana the dose of Sneha for next day was decided. Thus Arohana krama Snehapaana was administered still samyak snigdha lakshana arises in all the patients.

**Swedana:** Once samyak snigdha lakshana appears then, from next day Sarvanga Abhangya with Murchit Taila followed by Bashpa Sweda was performed. Thus, Bahya Snehan and Swedan was performed for 4 days and during this period patient advised to avoid consumption of Kaphakar Ahara and Vihara.

**Pradhana Karma:**

On 4th day depending upon the rogi & roga bala Virechana Yoga of Pippali, Nagar, Kshara,(each 4gm) Shyama Trivritta (10gm) & Madhu(Q.S) combination dose was decided.

After the Bashpa sweda procedure, ascertain the patient proper digestion of previous night consumed meal. Then above mentioned Virechana yoga with sufficient quantity of Madhu was administered to patient on empty stomach in the morning hours at 9.30 AM.

**Paschata Karma:**
Samsarjana Krama was decided on the basis of Shuddhi lakshana and it was started from the same day evening till for 3/5/7 days.

Assessment criteria:
Signs and Symptoms of Samyak and Asamyak Virechana.
Patients were evaluated for severity of illness during and after the intervention.

Subjective: Lakshanas of sthaulya.

Laiñgiki features
All the Laingiki features were identified as samyaka yoga, atiyoga, & ayoga features.

Antaki feature
Antaki feature was identified at the end of Virechana karma based on the colour, consistancy etc. parameters of Stool and finally depending on observation it was documented as Pittant / Kaphant/ Aoushadhanta/ Malanta.

Objective:
Maniki features & vegiki features of Virechana karma.

BMI (Kg/m²)
Table no. 1

<table>
<thead>
<tr>
<th>No. of days</th>
<th>No of patients</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>7</td>
<td>35%</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>50%</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>05%</td>
</tr>
</tbody>
</table>

Out of 20 patients of Sthaulya studied in this work about 35 % of the patients developed samyak snigdhaLakṣana on third day, 65 % of patients developed it on the 4th day, 10 % of patients developed it on fifth day and only 5% required six days of snehapaana to attain the samyak snigdha Lakshan.

Average amount of Ghrita required attaining Samyak Snigdha Lakshanas: 
Table no. 2

<table>
<thead>
<tr>
<th>Total no. of patients</th>
<th>Mean of total ghrita to attain samyaka snigdhata</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>290</td>
</tr>
</tbody>
</table>
In this study, mean of total amount of ghrita required was 290 ml, however a minimum of 175 ml and a maximum of 775 ml were administered in different patients.

**Total amount of abhyantara sneha during the whole course of snehapaana:**
Out of 20 patients of Sthaulya studied in this work maximum of 50% of the patients took anything between 201-400ml and the number of patients who took in between 000-200ml was 40% and 05% each of the patients required anything between 401-601ml and 601-800 ml of total snehapaana.

**Analysis of latency period:**
The time required for the manifestation of the first Virechana Vega after the administration of Virechana drug may be called as Latency period. In the present study, Out of 20 patients, maximum number of patients i.e. 75% the latency period was between 61-90 minutes, where as in minimum of 10% of patient’s latency period was between 31-60 minutes.

**Analysis of Vaigiki Shuddhi :-**
Out of 20 patients maximum of 70% of the patients had madhyama shuddhi and 10% had pravara and 20% had avara shuddhi.

**Analysis of Anthiki of Virechana:**
In maximum number of patient i.e. 40% exhibited drava malaanta virechana, about 35% of the patients had kaphanta Virechana and 15% had aushadhanta and 10% had pittanta virechana.

**Effect of treatment on Bhaaravruddhi / Weight:**

<table>
<thead>
<tr>
<th>n</th>
<th>BT Mean</th>
<th>Follow up Mean</th>
<th>Diff “d”</th>
<th>%</th>
<th>Paired ‘t’ test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>AT1</td>
<td>75.27</td>
<td>3.13</td>
<td>3.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AT2</td>
<td>74.37</td>
<td>4.03</td>
<td>5.14</td>
</tr>
<tr>
<td>20</td>
<td>78.40</td>
<td>AT3</td>
<td>74.87</td>
<td>3.53</td>
<td>4.50</td>
</tr>
</tbody>
</table>

**Graph no.2**

**Graph no.3**

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**Table no. 3**
Statistical analysis revealed that there was 3.99% improvement in Bhaaravriddhi / Weight score after snehapaana and was further increased to 5.14% after virechana and 4.50% at follow up. This change is statistically significant (P=<0.001).

**Effect of treatment on BMI:**

<table>
<thead>
<tr>
<th>n</th>
<th>BT Mean</th>
<th>Follow up Mean</th>
<th>Diff “d”</th>
<th>%</th>
<th>Paired ‘t’ test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SD</td>
</tr>
<tr>
<td>20</td>
<td>28.15</td>
<td>AT1 27.04</td>
<td>1.11</td>
<td>3.94</td>
<td>1.088</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AT2 26.67</td>
<td>1.48</td>
<td>5.25</td>
<td>1.138</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AT3 26.84</td>
<td>1.31</td>
<td>4.65</td>
<td>1.147</td>
</tr>
</tbody>
</table>

**Graph no.4**

Statistical analysis revealed that there was 3.94% improvement in BMI score after snehapaana and was further increased to 5.25% after virechana and 4.65% at follow up. This change is statistically significant (P=<0.001).

**Effect of treatment on Udara lambana / Waist circumference:**

<table>
<thead>
<tr>
<th>n</th>
<th>BT Mean</th>
<th>Follow up Mean</th>
<th>Diff “d”</th>
<th>%</th>
<th>Paired ‘t’ test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SD</td>
</tr>
<tr>
<td>20</td>
<td>101</td>
<td>AT1 100.10</td>
<td>0.9</td>
<td>0.89</td>
<td>10.259</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AT2 99.200</td>
<td>1.8</td>
<td>1.78</td>
<td>10.195</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AT3 99.40</td>
<td>1.6</td>
<td>1.58</td>
<td>10.200</td>
</tr>
</tbody>
</table>

**Graph no.5**

Statistical analysis revealed that there was 0.89% improvement in Udara lambana / waist circumference score after snehapaana and was further increased to 1.78% after virechana and 1.58% at follow up. This change is statistically significant (P=<0.001).

**Effect of treatment on Waist / Hip Ratio:**

<table>
<thead>
<tr>
<th>n</th>
<th>BT Mean</th>
<th>Follow up Mean</th>
<th>Diff “d”</th>
<th>%</th>
<th>Paired ‘t’ test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SD</td>
</tr>
<tr>
<td>20</td>
<td>101</td>
<td>AT1 100.00</td>
<td>0.9</td>
<td>0.89</td>
<td>10.259</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AT2 99.200</td>
<td>1.8</td>
<td>1.78</td>
<td>10.195</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AT3 99.40</td>
<td>1.6</td>
<td>1.58</td>
<td>10.200</td>
</tr>
</tbody>
</table>
Statistical analysis revealed that there was 0.30 % improvement in Waist / hip ratio score after snehapaana and was 0.40% after virechana and 0.50 % at follow up. This change is statistically insignificant.

**Effect of treatment on total cholesterol:**

Table no. 7

<table>
<thead>
<tr>
<th>n</th>
<th>BT Mean</th>
<th>Follow up Mean</th>
<th>Diff “d”</th>
<th>%</th>
<th>Paired ‘t’ test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SD</td>
</tr>
<tr>
<td>20</td>
<td>181.50</td>
<td>157.50</td>
<td>24</td>
<td>13.22</td>
<td>27.81</td>
</tr>
</tbody>
</table>

The change that occurred with the treatment is greater than would be expected by chance; there is a statistically highly significant change (P = <0.001)

**Effect of treatment on Triglyceride:**

Table no. 8

<table>
<thead>
<tr>
<th>n</th>
<th>BT Mean</th>
<th>Follow up Mean</th>
<th>Diff “d”</th>
<th>%</th>
<th>Paired ‘t’ test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SD</td>
</tr>
<tr>
<td>20</td>
<td>100.60</td>
<td>82.80</td>
<td>17.8</td>
<td>17.69</td>
<td>18.89</td>
</tr>
</tbody>
</table>

The change that occurred with the treatment is not great enough to exclude the possibility that the difference is statistically insignificant (P =<0.29).

**Effect of treatment on HDL:**

Table no. 9
The change that occurred with the treatment is less than would be expected by chance; there is a statistically insignificant change (P= < 0.23).

**Effect of treatment on LDL:**

Table no. 10

<table>
<thead>
<tr>
<th>n</th>
<th>BT Mean</th>
<th>Follow up Mean</th>
<th>Diff “d”</th>
<th>%</th>
<th>Paired ‘t’ test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SD</td>
</tr>
<tr>
<td>20</td>
<td>115.35</td>
<td>104.85</td>
<td>10.5</td>
<td>9.01</td>
<td>26.31</td>
</tr>
</tbody>
</table>

The change that occurred with the treatment is less than would be expected by chance; there is a statistically insignificant change (P= < 0.67).

**DISCUSSION**

A total of 20 patients fulfilling the inclusion criteria were studied. The observation and the result as well as statistical analysis of these are elaborated below.

**Number of Individuals registered for the Study** – 20

**Number of Individuals completed the Study** – 20

**Number of Dropouts** – Nil

**Age**-

In this study it was found that the incidence was highest in the age group of 41-60 years constituting 40 % of total number of patients. 30 % patients were in the age group of 16-30 and 31-45 years each. This is in concurrence with the increased incidence of Overweight in the middle age groups. But a conclusion cannot be drawn as the sample size is small.

**Sex** –

In the sample taken for the study, 50% patients were females in comparison to 50 % of male patients. Though overweight is more prevalent among females than in males but it is not possible to conclude the fact because of a small sample size.

**Religion**-

In the study sample, the incidence of Hindus was 80 % , Christians was 15 % and that of Muslims was 05%. As the sample size is small it does not represent the geographical as a whole.

**Educational status**-

Majority of the patients were graduates constituting 60% where as 25% had their secondary education, 15% were post graduates.

**Marital status**-

Most of the patients were married comprising of 80 % and the remaining 20 % were unmarried. This is in concurrence with a study that associated marriage to overweight and obesity.
Socio Economic status:
Majority of patients belonged to the middle class 55%, 30% were in upper middle class and 15 % were in lower middle class. This is in concurrence that overweight is ubiquitous regardless of economic status.

Occupation-
Maximum number of patients were house wife (35%), 30% were businessman, 20% were students, 15% were in service.

Nature of work-
In this study, maximum of 60 % of patients had sedentary work; where as 35 % of patients had moderate type of work and 5% had a stressful work.

Desha-
In this study, 85 % of the patients belonged to Anupa desha and 15 % belonged to Sadharana desha. This represents that most of the patients in the sample belonged to the same geographical area, but the role of Anupa desha in causing Sthaulya can not be ruled out as it is Kapha pradhana desha.

Diet-
70% of the patients were using mixed diet while 30 % were to a vegetarian diet; but all the 100 % indulged in guru snigdha ahara which is the predisposing factor for Overweight and Obesity.

Nidra-
Of the total 20 patients, 85% had normal and sound sleep whereas remaining15% had disturbed sleep. Excessive nidra is one of the nidana predisposing to Sthoulya roga.

Addiction-
In this study it was found that 100 % of the patients had addiction of tea, coffee or beverages. 20 % were addicted to alcohol and 10% were addicted to cigarette. It is difficult to draw any conclusions as the sample size is small.

Prakruti-
A majority of patients (60%) belonged to Kapha-Vāta Prakruti, 25 % belonged to Kapha- Pitta Prakruti and remaining 15% belonged to Vata-Pitta. Thus kapha predominant either associated with Vata or Pitta, is more in predisposing the disease Sthoulya.

Satwa-
The analysis of Satva revealed 90% of patients had madhyama satva while 5 % had avara satwa and 5% had pravara satva.

Samhanana-
20% of patients were found having avara samhanana, 80% had madhyama samhanana. Acharyas opines that an obese will have alpa bala due to the asamatva in dhatus.

Satmya-
Analysis of satmya revealed that 65 % of patients had madhyama satmya, while 35 % of patients had avara satmya. This might be because sthool person consumes more of madhura, mamsa and sneha dravyas as a routine diet.

Ahara shakti and Jarana shakti:
In this study it was found that 75 % of patients had pravara abhyavaran shakti and jarana shakti where as 25 % had madhyama abhyavaran shakti and jarana.

Koshtha-
In the present study, 60 % had madhyama koshtha, 30 % of the patients had krura koshtha and 10% had mrudu koshtha.

Nidana-
Among the Aharatmaka nidana, all 20 patients were found indulging in Guru, Snigdha Pradhana Ahara sevana and 70% indulged in Madhura Rasa Pradhana Ahara sevana. 70% of patients were found indulging in Samishahara sevana. 25 % of patients had bija doshaja sthaulya. Divasvapna and atinidra was noted in 60%
of the patients and avyayama was noted in 75% of the patients. Both aharatmaka and viharatmaka nidana’s support the causation of overweight and obesity.

Bijasvabhava has been mentioned as one of the causative factor of Sthoulya in classics, which was revealed by taking family history.

Srotas involved-
In the present study all the patients had Medo and mamsa dushti lakshana (100%). 55% of patient had involvement of Svedavaha srotas and 30% rasavaha. Vitiation of Medovaha srotas is mentioned by acharyas, in pathogenesis of sthaulya.

Symptoms-
The symptom sthulata, udara lambana was observed in all 100% patients, snigdhangata and swapna kruthana was found in 40% of patients respectively. 35% of patients had sphik lambana. 10% of patients had trisha while 20% of patients had symptom of sweda daurgandhyata.

Vata presents with symptoms like swapna kruthana, kapha Dosha presents with pramana vruddhi, Snigdhagata, Pitta like daurgandhya. Vitiation of Tridosha in pathogenesis of sthaulya is mentioned by acharyas and the same is reflected in this study.

BMI: As the study carried out in overweight, 30% patients each had BMI in between 28.0 – 28.9 and 29.0-29.9, 20% were in 27.0 – 27.9, 15% were in 26.0 – 26.9 and remaining 5% were in 25.0 – 25.9.

CONCLUSION
• Sthaulya is a Dushya Dominant Vyadhi.
• There is an involvement of all the three Doshas in Sthaulya but the vitiation of Kapha-Vata and Meda of prime importance.
• Etiological factor mainly Vitiate Kapha-Meda. This vitiated Meda obstruct the path of Vata and causes its Avarana which results in to provocation of Vata.
• Thus remaining in the Kostha Vata causes Atikshudha, which increases gravity of the disease and make the Sthoulya Kritchhsadhaya.
• Due to obstruction by Meda, Vyana Vayu could not transport nutrient to other Dhatu so Medadhatus is increased and Uttradhatu decreased.
• Sedentary life, lack of exercise, faulty food habits, and urbanization precipitate the disease.
• Genetic predisposition, Kapha predominant Prakriti increases the prevalence of Sthaulya.
• So treatment modality should be planed considering vitiated Meda,Kapha and Vata. and Virechana Karma are amongst them.
• Indication of Virechana in Sthaulya are indirect references.
• Virechana is beneficial for Sthaulya w.s.r to overweight.
• Virechana helps to initiate the weight loss mechanism in the body.
• Virechana helps to check the future complications in the healthy obese as well as in the obese.
• The plus point observed in case of Ayurvedic management is absence of any hazardous effect, which is really a great benefit to the patients and is of vital importance in view of the global acceptance of Ayurveda.
• Results of this study are very encouraging and trial should be conducted on large sample with better parameters.
BIBLIOGRAPHY


CORRESPONDING AUTHOR

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