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Rookshana Poorvaka Vamana Karma and Rookshana Poorvaka Virechana Karma in the management of Sthoulya vis-a-vis Obesity - Comparative Clinical Study

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ABSTRACT

Obesity with its devastating consequences is a global health problem of this era. Presently Obesity in India has reached epidemic proportions in the 21st century, with morbid Obesity affecting 5% of the country's population. The characteristic features of Obesity have close resemblance with *Sthoulya* in Ayurveda. *Sthoulya* is one among *Santharpanottha Vyadhi*, one among the *Ashta Nindita Purushas*, *Kapha Nanatmaja Vyadhi* and *Dushta Medo Roga*. *Sthoulya* being *Bahudoshavasta* and *Mamsala*, *Medhura* and *Bhuri Sleshma Vyadhi*. Hence, considering the condition, a comparative study was planned to compare the efficacy of *Rookshana Poorvaka Vamana* and *Virechana Karma*. The objective criteria were assessed before and after treatment. The results was statistically highly significant within the group, at the level of P value <0.001. Between the groups, *Rookshana Poorvaka Vamana Karma* group showed better results in comparison of mean difference to that of *Rookshana Poorvaka Virechana Karma* group.

Key words: *Sthoulya*, *Obesity*, *Rookshana*, *Vamana Karma*, *Virechana Karma*.

INTRODUCTION

Perhaps never before, the health and wealth have gone in such a contradictory manner when wealth is booming like nothing and health is dooming like anything. Obesity with its devastating consequences is a Global Health Problem of this era. Due to nutritional abundance and sedentary lifestyle it came up as a

common problem and thus, a challenging issue to be resolved. The WHO formally recognized obesity as global epidemic in 2016, 39% of men aged 18 and over were overweight. The worldwide prevalence of obesity nearly tripled between 1975 and 2016. In 2016, more than 1.9 billion adults aged 18 years and older were overweight, of these over 650 million adults were obese.^[1] India is just behind US and China in global hazard list of top 10 countries with highest number of obese people.^[2] Obesity is more common in women than men. Obesity is defined as abnormal growth of adipose tissue due to the enlargement of fat cell size or an increase in fat cell number or in combination.^[3] Obesity is strongly associated with an increased risk of multiple health problems, including type 2 diabetes, hypertension, dyslipidemia, obstructive sleep apnea, nonalcoholic fatty liver disease, degenerative joint disease and some malignancies.^[4] In Ayurveda Obesity may be correlated with *Sthoulya*. *Sthoulya* is explained as

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Santharpanottha Vyadhi,^[5] one among the *Ashta Nindita Purushas*,^[6] *Kapha Nanatmaja Vyadhi*^[7] and *Dushta Medo Roga*.^[8] The main line of treatment explained for *Sthoulya* in *Ayurveda* is *Guru Cha Atarpana*.^[9] As *Sthoulya* is *Bahudoshavasta*, here *Shodhana* plays as an important role. *Vamana* and *Virechana Karma* is the best treatment modality for *Sthoulya*. *Vamana Karma* is the prime treatment for *Kaphaja Vikaras* and *Virechana Karma* corrects *Agni* leading to stability of *dhatu*s. *Sthoulya* is also *Mamsala*, *Medhura* and *Bhuri Sleshma Vyadhi*. So, *Rookshana* is to be adopted as *Vishista Poorva Karma* prior to *Samshodhana*.^[10]

AIMS AND OBJECTIVES

1. To evaluate the efficacy of *Rookshana Poorvaka Vamana Karma* in the management of *Sthoulya vis-a-vis Obesity*.
2. To evaluate the efficacy of *Rookshana poorvaka Virechana Karma* in the management of *Sthoulya Vis-A-Vis Obesity*.
3. To compare the efficacy of *Rookshana Poorvaka Vamana Karma* and *Virechana Karma* in the management of *Sthoulya vis-a-vis Obesity*.

MATERIALS AND METHODS

Source of Data

Total 20 Subjects with clinical features of *Sthoulya* (Obesity) coming under the inclusion criteria approaching the out-patient and in-patient department of Sri Kalabyraveswaramy Ayurvedic Medical College, Hospital and Research Centre, Bengaluru were selected for the study.

Diagnostic Criteria

- Based on *Lakshanas* of *Sthoulya*^[11]
- Signs and symptoms of Obesity^[12]
- BMI > 25 kg/m² (Table 1)

Table 1: Grading of BMI

SN	BMI	Grades
1.	Below 24.9 kg/m ²	Healthy weight
2.	25.0-29.9kg/m ²	Over weight

3.	30.0-34.9 kg/m ²	Grade I Obesity
4.	35-39.9kg/m ²	Grade II Obesity
5.	Above or equal to 40.00 kg/m ²	Grade III Obesity

Inclusion Criteria

- Subject presenting with *Lakshanas* of *Sthoulya*.
- Subject presenting with signs and symptoms of Obesity.
- Subject of either gender aged above 18 years.
- Subject fit for *Udvardana*, *Snehapana*, *Vamana Karma* and *Virechana Karma*.
- BMI > 25 kg/m²

Exclusion Criteria

- Any systemic illness that interfere with the course of intervention
- Subject who are a known case of endocrine disorders

Study design

- Double arm, active, open label clinical study

Intervention

Group - A

- In this group, *Rookshana Poorvaka Vamana Karma* was given to subjects.

Poorva Karma

- *Sarvanga Udvardana* with *Triphala Choorna* and *Kolakullatadi Choorna* followed by *Bashpa Sweda* for 14 days.
- *Snehapana - Arohana Karma Snehapana* with *Moorchita Taila* was given for 3 to 7 days based on *Koshta* and *Agni* of patient till the appearance of *Samyak Snigdha Lakshanas*.
- *Vishrama Kala - Sarvanga Abhyanga* with *Moorchita Taila* followed by *Bashpa Sweda* and *Kaphotkleshakara Ahara* was advised for one day.

Pradhana Karma

- The next day *Vamana Karma* was conducted with *Madanaphala Pippali Yoga*, after *Sarvanga*

Abhyanga with Moorchita Taila followed by Bashpa Sweda in Pratah Kala (Kapha Kala).

Paschat Karma

- Based on Shuddhi Lakshanas, Samsarjana Karma was advised.

Group - B

- In this group, Rookshana Poorvaka Virechana Karma was given to subjects.

Poorva Karma

- Sarvanga Udwartana with Triphala Choorna and Kolakullatadi Choorna followed by Bashpa Sweda for 14 days.
- Snehapana - Arohana Karma Snehapana with Moorchita Taila was given for 3 to 7 days based on Koshta and Agni of patient till the appearance of Samyak Snigdha Lakshanas.
- Vishrama Kala - Sarvanga Abhyanga with Moorchita Taila followed by Bashpa Sweda for 3 days.

Pradhana Karma

- The next day Virechana Karma was given with Trivrut Avalehya, after Sarvanga Abhyanga with Moorchita Taila followed by Bashpa Sweda.

Paschat Karma

- Based on Shuddhi Lakshanas, Samsarjana Karma was advised.

ASSESSMENT CRITERIA

- Body Mass Index

Formula for calculating BMI

BMI = Weight in Kilogram / Height in Meters(m²)

- The Girth circumference measurement of certain regions using measuring tape was done. The following areas are:

- Chest - In normal condition at the nipple region.
- Abdomen - At the level of umbilicus.
- Hip - At the level of highest point of distension of buttocks.

- Mid arms - Mid of arm from shoulder joint to elbow joint.
- Mid thighs - Mid of thigh between pelvic and knee joint.

Assessment was done on BT (Before treatment) and AT (After the completion of Samsarjana Karma) for both the groups.

OBSERVATIONS

Table 2: Number of subjects registered for the study.

Category	Number of Patients		Total
	Group A	Group B	
Registered	12	11	23
Completed	10	10	20
Drop-out	02	01	03

Distribution of Subjects based on Age (years): In Group A, 6 (60%) Subjects were belonged to age group of 21-40 years, 4 (40%) Subjects were belonged to age group of 41-60 years. In Group B, 5 (50%) Subjects were belonged to age group of 21-40 years, 5 (50%) Subjects were belonged to age group of 41-60 years.

Distribution of Subjects based on Gender: In Group A, 6 (60%) Subjects were Females, 4 (40%) Subjects were Males. In Group B, 5 (50%) Subjects were Females, 5 (50%) Subjects were Males.

Distribution of Subjects based on BMI: In Group A, 6 (60%) Subjects were between 25-29.9 BMI, 2 (20%) Subjects were between 30-34.9 BMI, 2 (20%) Subjects were between 35-39.9 BMI. In Group B, 7 (70%) Subjects were between 25-29.9 BMI, 2 (20%) Subjects were between 30-34.9 BMI, 1 (10%) Subjects were between 35-39.9 BMI.

Statistical Analysis

- For the Statistical analysis, the data obtained in both the groups were recorded and presented in tabulations and graphs.

- To infer the clinical study and draw conclusions, paired 't' - test was applied for within the group analysis and unpaired 't'- test was applied for between the group analysis.

Interpretation	P Value
Insignificant	>0.005
Significant	<0.005
Highly Significant	<0.01, <0.001

RESULTS

Effect of treatment on BMI, Chest circumference, Abdominal circumference, Hip circumference, Mid-arm circumference and Mid-thigh circumference.

Group - A

Parameters	Mean		Mean diff.	S. D	S. E	T value	P value	Significance
	BT	AT						
BMI	28.47	25.38	3.09	1.20	0.38	8.12	<0.001	HS
Abd.Circ.	111.80	102.95	8.85	4.87	1.54	5.73	<0.001	HS
Hip.Circ.	109.80	105.89	3.91	0.99	0.31	12.41	<0.001	HS
Chest.Circ.	108.95	105.13	3.82	1.26	0.40	9.53	<0.001	HS
Mid-arm.Circ.	35.10	31.05	4.05	1.18	0.37	10.77	<0.001	HS
Mid-thigh.Circ.	61.60	58.30	3.30	2.26	0.71	4.61	<0.001	HS

Group - B

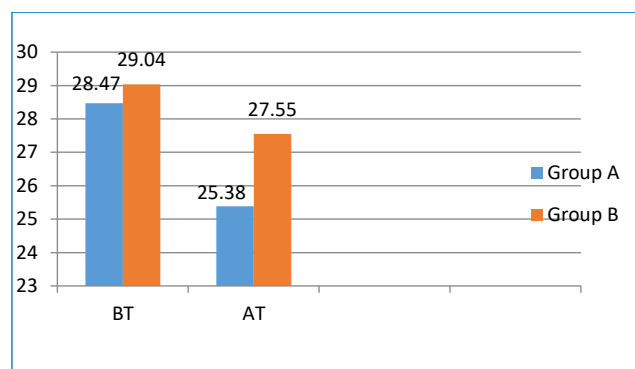
Parameters	Mean		Mean diff.	S. D	S. E	T value	P value	Significance
	BT	AT						
BMI	29.04	27.55	1.49	0.54	0.17	8.59	<0.001	HS
Abd.Circ.	109.80	102.85	6.95	4.23	1.33	5.19	<0.001	HS
Hip.Circ.	110.00	107.00	3.00	1.00	0.00	7.30	<0.001	HS

	00	19	1	20	38	5	01	
Chest.Circ.	107.30	103.51	3.79	1.90	0.60	6.29	<0.001	HS
Mid-arm.Circ.	33.60	30.65	2.95	1.78	0.56	5.22	<0.001	HS
Mid-thigh.Circ.	60.70	57.45	3.25	1.93	0.61	5.31	<0.001	HS

Within the group analysis Before treatment to After treatment, the p value (<0.001) revealed statistically highly significant in both the groups.

Comparison between the groups

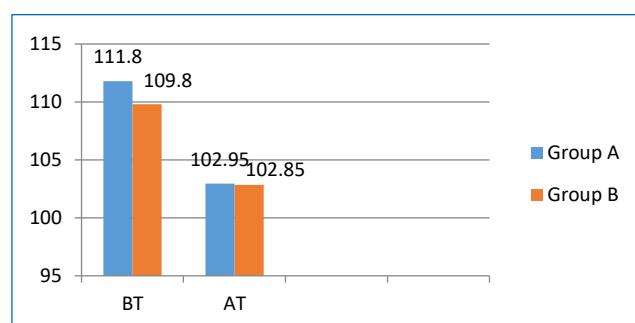
Effect of treatment on BMI in Between the groups.



On Comparing in between the groups, Before treatment to After treatment, the p value (<0.005) revealed Non-significant differences statistically between the groups.

However, the mean difference (3.09) of Group A was higher when compared with the mean difference (1.49) of Group B. Hence, the results in the effect of treatment on BMI in Group A was better than Group B.

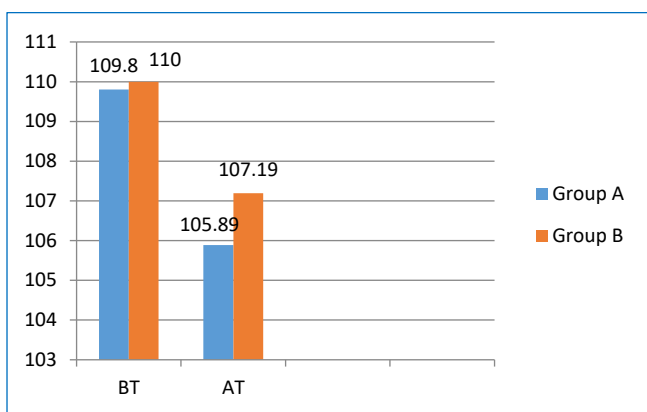
Effect of treatment on Abdominal circumference in Between the groups.



On Comparing in between the groups, Before treatment to After treatment, the p value (<0.005) revealed Non-significant differences statistically between the groups.

However, the mean difference (8.85) of Group A was higher when compared with the mean difference (6.95) of Group B. Hence, the results in the effect of treatment on Abd. Circumference in Group A was better than Group B.

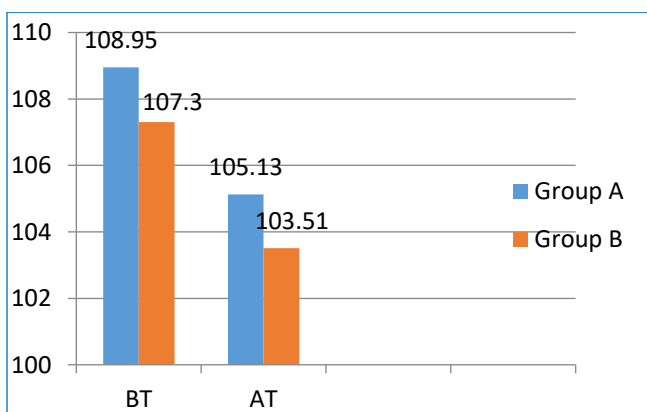
Effect of treatment on Hip circumference in Between the groups.



On Comparing in between the groups, Before treatment to After treatment, the p value (<0.005) revealed Non-significant differences statistically between the groups.

However, the mean difference (3.91) of Group A was higher when compared with the mean difference (2.81) of Group B. Hence, the results in the effect of treatment on Hip circumference in Group A was better than Group B.

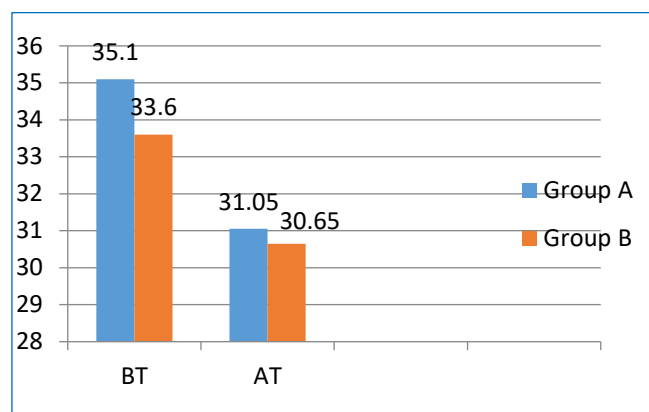
Effect of treatment on Chest circumference in Between the groups.



On Comparing in between the groups, Before treatment to After treatment, the p value (<0.005) revealed Non-significant differences statistically between the groups.

However, the mean difference (3.82) of Group A was higher when compared with the mean difference (3.79) of Group B. Hence, the results in the effect of treatment on Chest circumference in Group A was better than Group B.

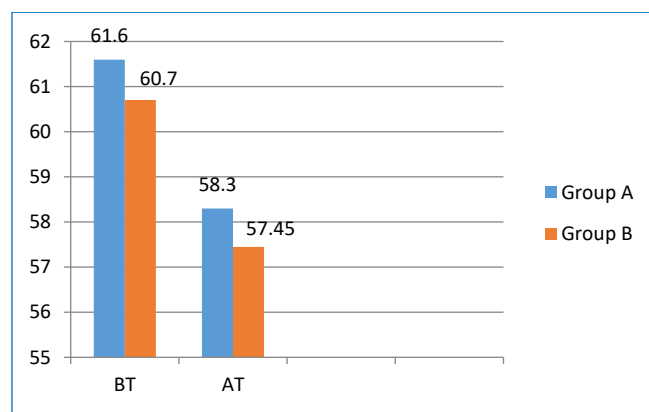
Effect of treatment on Mid-arm circumference in Between the groups.



On Comparing in between the groups, Before treatment to After treatment, the p value (<0.005) revealed Non-significant differences statistically between the groups.

However, the mean difference (4.05) of Group A was higher when compared with the mean difference (2.95) of Group B. Hence, the results in the effect of treatment on Mid-arm circumference in Group A was better than Group B.

Effect of treatment on Mid-thigh circumference in Between the groups.



On Comparing in between the groups, Before treatment to After treatment, the p value (<0.005) revealed Non-significant differences statistically between the groups.

However, the mean difference (3.30) of Group A was higher when compared with the mean difference (3.25) of Group B. Hence, the results in the effect of treatment on Mid-thigh circumference in Group A was better than Group B.

DISCUSSION

In this study - *Sthoulya*, the treatment adopted is *Rookshana Poorvaka Vamana Karma* in Group A and *Rookshana Poorvaka Virechana Karma* in Group B.

Rookshana Karma

Rookshana is one among the *Shadvidhopakramas* and classified under *Apatarpana* among *Dividhopakrama*.

“*Roukshyam Kharatwam Vaishadyam Yat Kuryat Thath Rukshanam*”^[13]

Whatever causes dryness, roughness and nonliminess is *Rukshana*. *Rukshana* is the *Vishishta Purvakarma* before the administration of *Snehapana* in conditions like: *Mamsala, Medura Bhurishleshma*.

Udvardana

Udvardana is one among the *Bahir Parimarjana Chikitsa*. This is used in the form of *Bahya Rookshana* which helps in *Pachana* of *Dooshita Doshas* and increases *Agni* at the level of *Bharjaka Pitta* in *Twak*. *Udvardana* which is having *Kaphahara, Medasaha Pravilapana (Dravikaranam), Medasaha Shoshana, Vatahara, Siramukha Vivikthatva, Dourgandhyahara, Tandrahara, Gouravahara* and *Sthirikarnam Anganam* effect was opted.

Hence, *Rookshana* in the form *Udvardana* with *Triphala* and *Kolakullatadi Choorna* was beneficial in reducing the *Dooshita Kapha Dosh* and *Medo Dhatu* by their *Ushna, Teekshna, Kaphamedohara* and *Shoshana* effect. In the course of *Rookshana*, patient noticed *Laghuta, Kshuth Pipasa Saha, Agni Vriddhi*, loss in girth of abdomen, chest, hip, arms and thigh region.

Vamana Karma and Virechana Karma

Patients were subjected to *Rookshana Karma* as it is not indicated to go directly for *Shodhana Karma* in a *Vyadhi* which involves *Maha Dosh*, *Marmastha* and *Bhuri Sleshma* in their manifestation. Hence, in the present study *Rookshana* is benefited in preparing a patient for *Shodhana*. *Acharya Vagbhata* has classified *Sthoulya* into *Heena, Madhyama* and *Ati Sthoulya* and advised *Shodhana* as *Chikitsa* in *Bahudosh Sthoulya*. *Vamana Karma* and *Virechana Karma* which were adopted in the present study due to their *Bahu Dosh Nirharana Shakthi, Shrotho Shodana* effect, *Kapha* and *Pitta Dosh Nirharana*, correcting the status of *Agni* has helped in countering the *Kapha* and *Medas* which are the *Dooshyas* in the manifestation of *Sthoulya*. Their by giving significant results in allevating the symptoms of *Sthoulya*.

CONCLUSION

It can be summarized that both *Vamana* and *Virechana Karma* cause marked reduction in various parameters of Obesity. *Samshodhana* must be the choice of treatment; as *Kapha* and *Pitta* vitiation are the major contributing pathological factors in *Sthoulya*. As *Sthoulya* is an *Beeja Doshaja Vyadhi*, neither *Vamana* nor *Virechana Karma* alone acts as the complete treatment for it. To get definite output regarding specific role of *Vamana* and *Virechana Karma* on reduction of weight, further study is necessary. The present study was carried on a small sample and for a limited time. As it showed encouraging results, further research must be done at a higher level with a large sample with longer duration so that a definite theory can be promulgated.

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