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A Clinical Efficacy of *Dashanga Guggulu* in *Sthaulya* w.s.r. to *Dosha Dushya Lakshana*

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ABSTRACT

Charaka has quoted *Sthaulya* under the eight varieties of impediments which are designated as *Astau-Nindita Purusha*, *Ati-Sthaulya* comprises one of them. *Charaka* also listed this problem under *Santarpanajanita Vyadhi*. According to *Charaka* in the case of fatty person, other *Dhatu* doesn't grow to the extent. He listed eight defects underlying *Sthaulya Purusha* they are *Ayuhrasa*, *Javoparodha*, *Alpa-Vyavayita*, *Daurbalya*, *Daugandhya*, *Swedabadha*, *Ati-Trisha*, *Ati-Kshudha*. It was observed in this study that the parameters like *Sharira Bhara* (Weight), BMI and *Dosha Dhātu Dushti Lakshana* of *Vata*, *Pitta* and *Kapha* are extremely significant statistically except *Ashti* and *Majja*. Overall it was observed that, percentage of relief in each patient of *Sthaulya* in experimental group was observed as 59.86% while 33.82 % in control group. On an average, in both group 46.84% relief was observed in each patient of *Sthaulya*. No side effects of the therapy were observed.

Key words: *Sthaulya*, Obesity, *Dashanga Guggulu*, *Astau Nindita Purusha*.

INTRODUCTION

In Ayurveda, so many types of the diseases described there and among them disease happens in *Astaninditya Purusha* (eight despicable personalities) has of prime importance because now a days due to the change in the life style of people, they have no time to maintain their health and to follow *Dinacharya* and *Ritucharya*. *Charaka* has quoted *Sthaulya* under the eight varieties of impediments which designated as *Astau-Nindita Purusha*, *Ati-Sthaulya* comprises one of them. *Charaka* also listed

this problem under *Santarpanajanita Vyadhi*.^[1]

Obesity has reached epidemic proportions in India in the 21st century, with morbid obesity affecting 5% of the country's population.^[2] In today's fast life incongruous food habit and relatively less exercise can be taken as major cause of obesity. Unhealthy, processed food has become much more accessible following India's continued integration in global food markets. This, combined with rising middle class income, is increasing the average caloric intake per individual among the middle class and above income households. To prevent these hazards there is need of time to return with our old roots which are very much healthier. Ayurveda has a unique concept about preventing these hazards with the theories of *Nidana Parivarjana* and *Pathya-Apathya*. According to *Charaka* in the case of fatty person, other *Dhatu* doesn't grow to the extent.^[3]

Vagbhata opines that derangement of *Agni* or digestive power leads to production of *Ama*, which disturbs tissue fire of fatty tissues and blocks the proper formation of further tissues. Improperly formed fatty tissue accumulates in the body causing obesity. Accumulated fats causes disturbance to movement of *Vata* which turned increases appetite,

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due to *Chala Guna* of *Vata*. Patients therefore its more an entire food is then converted into improper fatty tissues.^[4]

Sthaulya (obesity) is such a disease, which provides the platform for so many hazards like Hypertension, cardiovascular diseases, diabetes and osteoarthritis infertility, impotency as well as psychological disorders like stress, anxiety, depression etc. Thus, the mortality and morbidity are more in obese person compared to others. Many theories have been put forward with many new hypotheses describing this disorder in Ayurveda as well as in modern science; still there is enough scope to work out on its aetiopathological and management aspect of the *Sthaulya*, because in modern medical science its management aspect remains symptomatic with troublesome side effects.

OBJECTIVE

To study the effect of *Dashanga Guggulu* on the management of *Sthaulya* (obesity) with focus on *Dosha Dushya Lakshanas*.

Etiology of Obesity as per Ayurveda^[5-8]

Acharya Charaka has mentioned the *Nidana* of *Sthaulya* analytically in most of them is exogenous types of causes. Endogenous types of causes have been mentioned by *Acharya Sushruta* and *Vagbhata*.

Nidana

The etiological factor known for a disease is called '*Nidana*' for that particular disease. *Hetu*, *Ayatana*, *Karta*, *Nimitta*, *Samutthana*, *Pratyaya* are the synonyms of *Nidana*. *Nidana* is the root cause for the origin of disease. Therefore *Sushruta* said that, "*Sankshepataha Kriyayogo Nidana Parivarjanam*".^[9]

All the *Nidana* (causative factors) mentioned in Ayurvedic classics can be classified into 4 groups - *Aharatmaka Nidana*, *Viharatmaka Nidana*, *Manas Nidana* and *Anyanidana*.

1. **Aharatmaka Nidana** - *Anupa Rasa Sevan*, *Atisampurana* (over eating), *Guru Ahara Sevana* (excessive consumption of food), *Mamsa Sevana* (Excessive use of meat), *Ikshu Vikara Sevana* (sugarcanes preparations), *Payas Vikara Sevana*

(milk and its preparations), *Sleshmala Ahara Sevana* (*Kapha* increasing food)

2. **Viharatmaka Nidana** - *Avyayama* (Lack of physical exercise), *Sukha Shayya* (Luxurious sitting), *Bhojanottara Nidra* (sleep after meal), *Alpavyavaya* (reduced sex life), *Gandhamalyanu Sevana* (use of perfumes and garlands).
3. **Manasika Nidana** - *Harshnityatvat*, (uninterrupted cheerfulness), *Achintanat* (Lack of anxiety), *Manasonivritti* (relaxation from tension), *Priyadarshana* and *Saukhyena*.
4. **Anyanidana** - *Amarasa*, *Snigdha Madhura Basti Sevana* (administration of unctuous and sweet enema), *Tailabhyanga* (massaging of oil), *Snigdha Udvartana* (unctuous unction) *Bijadoshaswabhavat* (heredity).

Apart from several other medical illnesses that increase obesity risk include, hypothyroidism, Cushing's syndrome, growth hormone deficiency along with certain medications may cause weight gain includes insulin, sulfonylureas, thiazolidinediones etc.

MATERIALS AND METHODS

A written consent of all patients included in the trial in the language best understood by them were taken before screening them for the trial, ethical clearance was also obtained prior to the trial. Obese patients were selected from the OPD and IPD, Department of Kayachikitsa, GAC, Nagpur.

Inclusion Criteria

1. Patients fulfilling diagnostic criteria and signs and symptoms of *Sthaulya*.
2. Age between 20 to 60 yrs age group.

Exclusion Criteria

1. Patients not willing for trial.
2. Patients having BMI less than 25

A) Management of groups:

Particulars	Trial Group	Controlled Group
Drug	<i>Dashanga Guggulu</i>	<i>Triphala</i> and <i>Musta Churna</i>

Dose	500mg	3g
Anupana	Koshnajala	Koshnajala
Frequency	Twice a day Abhaktakala	Twice a day Abhaktakala
Duration	3 months	3 months

Diagnostic Criteria

It was mainly based on the specially prepared proforma, including all clinical signs and symptoms of the disease in which detailed history was taken and physical examination were done.

1. Standard height - weight chart were included.
2. The value of BMI were used.(>25)
3. Waist and Hip circumference
4. Waist / Hip ratio

OBSERVATIONS AND RESULTS

In this study 60 patients of *Sthaulya* were studied and selected randomly as per criteria of selection irrespective of religion, socio-economic status. All these patients were diagnosed with the help of criteria of diagnosis. Specially designed Case Report Form (CRF) was used to fill the all information of subjects.

Table 1: Showing percentage of relief (objective criteria) in each parameters of 60 Patients of Sthaulya.

No.	Parameters	Experimental Group				Control Group			
		BT Mean	AT Mean	Dif of Mean	% of Relief	BT Mean	AT Mean	Dif of Mean	% of Relief
A	Objective Criteria								
1	Sharira Bhara	71.00	63.13	07.86	11.76	71.88	68.17	03.73	05.19
2	BMI	28.88	25.67	03.20	11.10	28.52	27.04	01.47	05.17

Percentage of relief (objective criteria) in 60 patients of Sthaulya.

In experimental group the mean weight (*Sharira Bhara*) before treatment (BT) was 71 which reduced after treatment (AT) to 63.13, the percentage relief was 11.76%. In parameter like BMI (Body mass Index) the mean BMI before treatment was 28.88 reduced to 25.67 after treatment and the percentage relief was 11.10%.

In control group the mean weight (*Sharira Bhara*) before treatment (BT) was 71.88 which reduced after treatment (AT) to 68.17, the percentage relief was only 05.19%. In BMI (Body mass Index) the mean BMI before treatment was 28.52 reduced after treatment to 27.04 and the percentage relief was 05.17%.

Table 2: Showing effect of therapy on objective parameters of 30 Patients of Sthaulya of control group. (Paired T-Test)

No.	Parameters	Mean \pm SD		\pm SEd		t value	p Value
		BT	AT	BT	AT		
1.	Sharira Bhara	71.9 \pm 5.71	68.16 \pm 5.60	1.04	1.02	29.26	<0.01
2.	BMI	28.51 \pm 2.16	27.04 \pm 1.97	0.39	0.35	28.72	<0.01

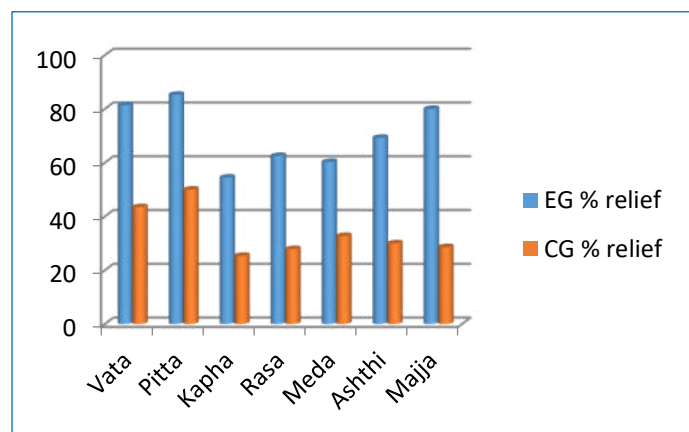
In Control Group, regarding *Sharira Bhara* the Mean \pm SD before treatment was 71.9 \pm 5.71 which was changed to 68.16 \pm 5.60 after treatment, the mean difference observed is 3.74 with t value 29.26 at degree of freedom 29 p value obtained was <0.01 which was extremely significant statistically. In BMI the Mean \pm SD before treatment was 28.51 \pm 2.16 which was changed after treatment to 27.04 \pm 1.97, the p value obtained was <0.01 which was extremely significant statistically.

Table 3: Showing symptoms score for Dasha and Dhatu Dushti Lakshana of 60 patients of Sthaulya.

No.	Dasha and Dhatu Dushti Lakshana	Experimental Group				Control Group			
		BT	AT	Dif of	% of Reli	BT	AT	Diff	% of Rel

					ef				ief
A Dosh									
1	Vata	43	08	35	81.40	46	26	20	43.47
2	Pitta	61	09	52	85.24	58	29	29	50.00
3	Kapha	213	97	116	54.46	23	15	54	23.35
B Dhatus									
1	Rasa	64	24	40	62.50	61	44	17	27.86
2	Meda	166	66	100	60.24	63	11	52	32.72
3	Ashthi	13	04	09	69.23	10	07	03	30.00
4	Majja	10	02	08	80.00	7	05	02	28.57

Graph 1. Showing Relief in symptoms score for Dosh and Dhatu Dushti Lakshana of 60 patients of Sthaulya.



Percentage of Relief Dosh and Dhatu Dushti Lakshana of 60 patients of Sthaulya

In experimental group among Vata Dosh Lakshana score of before treatment (BT) was 43 which reduced after treatment (AT) to 08 with difference 35, the

percentage relief was 81.40%. In Pitta Dosh Lakshana before treatment score was 61 reduced after treatment to 09 and the percentage relief was 85.24 %, while in Kapha Dosh Lakshana score before treatment was 213 and reduced after treatment to 97 and percentage of relief was 54.46%.

In Dhatu Dushti Lakshana the percentage of relief in Rasa was 62.50%, in Meda it was 60.24%, in Ashthi it was 69.23%, and in Majja Dhatu Dushti Lakshana the relief was 80%.

In control group among Vata Dosh Lakshana score of before treatment (BT) was 46 which reduced after treatment (AT) to 26 with difference 20, the percentage relief was 43.47%. In Pitta Dosh Lakshana before treatment score was 58 reduced after treatment to 29 and the percentage relief was 50 %, while in Kapha Dosh Lakshana score before treatment was 213 and reduced after treatment to 159 and percentage of relief obtained was 23.35%.

In Dhatu dushti lakshan the percentage of relief in Rasa was 27.86%, in Meda it was 32.72%, in Ashthi it was 30%, and in Majja dhatu dushti lakshan the relief was 28.57%.

Table 4: Showing comparison between two group w.r.t Dosh and Dhatu Dushti Lakshana of 60 patients of Sthaulya. (Wilcoxon-Mann-Whitney Test)

No	Dosh and Dhatu Dushti Lakshana	Mean ± SD		U'		S Ed		P Value
		Gr-A	Gr-B	U'	U	Gr-A	Gr-B	
		A. Dosh						
1	Vata	1.66 ± 0.80	0.67 ± 0.47	615	285	0.14	0.08	<0.05
2	Pitta	1.73 ± 0.90	0.97 ± 0.67	681	218.5	0.16	0.12	<0.05

3	<i>Kapha</i>	3.8 6 ± 0.5 0	1.8 0 ± 0.6 6	888	12	0.0 9	0.1 2	<0.00 1
B Dathus								
1	<i>Rasa</i>	1.3 3 ± 0.6 7	0.5 6 ± 0.5 0	710. 5	189. 5	0.1 2	0.0 9	<0.00 1
2	<i>Meda</i>	3.3 3 ± 0.4 7	1.8 0 ± 0.4 8	890	10	0.0 8	0.0 8	<0.00 1
3	<i>Ashthi</i>	0.3 0 ± 0.4 6	0.1 0 ± 0.3 0	540	360	0.0 8	0.0 5	>0.05
4	<i>Majja</i>	0.2 6 ± 0.4 4	0.0 6 ± 0.2 5	540	360	0.0 8	0.0 4	>0.05

The Difference between before treatment (BT) and after treatment (AT) score of *Dosha* and *Dhatudushti Lakshana* for both group was compared by 'Wilcoxon-Mann-Whitney Test'.

It was found that the sum of rank of experimental group for *Vata Dosha Lakshana* was 615, Test statistic (U) was 285, where the test statistic U was between Population Mean ± 1.96 SD which was very significant at 5% level of significance. (P<0.05) Therefore the difference between symptom score of *Vata Dosha Lakshana* of Experimental group is statistically very significant, so therefore we can conclude that in the symptom *Vata Dosha Lakshana* trial drug has effective statistically.

In *Pitta Dosha Lakshana* sum of rank was 888 and U statistics was 12 and p value obtained was <0.0001 where the test statistic U was between Population Mean ± 1.96 SD which was considerably extremely significant as p < 0.05.

In *Dhatu Dushti Lakshana Rasa* and *Meda* p value was <0.001 in both which was extremely significant

while in *Asthi* and *Majja Dhatu Dushti Lakshana* it was not significant as p value >0.05.

From above description of statistics we can conclude that experimental drug was effective in reducing *Vata*, *Pitta* and *Kapha Dushti Lakshana* and it was statistically significant.

In *Dhatu Dushti Lakshan* of *Rasa* and *Meda* p value obtained was significant that means drug of experimental group was effective compare to control drug, while in *Asthi* and *Majja Dhatu Lakshana* it was not significant, means both group treatment was equally effective.

CONCLUSION

It was observed that result obtained in the parameters like Sharira Bhara (weight), BMI, *Dosha Dhatu Dushti Lakshana* are extremely significant statistically except *Ashthi* and *Majja*. *Dashanga Guggulu*, *Triphala Churna* and *Musta* are easily available as well as is cost effective.

In *Dhatu Dushti Lakshana* the percentage of relief in *Rasa* was 62.50%, in *Meda* it was 60.24%, in *Asthi* it was and 69.23%, and in *Majja Dhatu Dushti Lakshana* the relief was 80%. In *Dhatu Dushti Lakshana* the percentage of relief in *Rasa* was 27.86%, in *Meda* it was 32.72%, in *Asthi* it was and 30%, and in *Majja Dhatu Dushti Lakshana* the relief was 28.57%.

Overall it was observed that, percentage of relief in each patient of *Sthaulya* in experimental group was observed as 59.86% while 33.82 % in control group. On an average, in both group 46.84 % relief was achieved in each patients of *Sthaulya* from the symptoms they suffered. No side effects of the therapy were found.

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