A Clinical Evaluation Of Haritakyadi Churna In The Management Of Obesity (Dyslipidemia)

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ABSTRACT:
In the 21st century, with continuous life style changing, environmental and dietary habits man became victims of many dieseases, sthoulya is one of them. In Ayurveda sthoulya has been described by acharya charak as one of the astanindit purush. In charak samhita eight feature of sthoulya have been described which include ayushorhas, javoparodh, ati kshutapipasa, krichchavyavayata, dourbaly, dourgandhya, swedasdhikya. As per modern science it is the precursor of many diseases like coronary heart diseases, hypertention, diabetes type 2, osteoarthritis etc . All these conditions are due to lipid imbalance in the body. Hence sthoulya mentioned in ayurvedic science can be compared with the dislipideamia and accordingly The present work is designed to find out the role of haritakyadi churna in the management of shthoulya w.s.r to dyslipidemia. And its associated symptoms. In this regard both ayurvedic and modern literature were observed thoroughly and to contribute a path in prevention/treatment of sthoulya the present research work was conducted. The drug was studied against the effect of commonly used drug atorvastatin on two group having 25 patients in each group and one group treated with research drug and other group treated with the atorvastatin,
Keywords: *Dyslipidemia, haritakyadi churna, obesity*

INTRODUCTION:
The word sthoulya is derived from the mula dhatu ' sthu' with suffix ach pratyaya which stands probably for bulky or big or thick. Here the word sthouly means heaviness of the body. It can simply be find by observing the BMI of the person. There are various synonyms were described in Ayurveda for the sthoulya like sthula, medadosh, medo vikara, medo dusti, ati pusti, medo vridhhi, medo gada etc. all these synonyms can be compared with dyslipidemia in modern literature.

A person having abnormal increase in medodhatu along with mamsa dhatu is found to having pendulous appearance of buttocks, belly and breast whose increase bulk is not matched by a corresponding increase in the body.

In astanga sangraha and astanga hridaya 3 type of sthoulya has been mentioned like adhik, Madhya and hine. There are various nidana like ati sevan of madhura rasa, guru and snigdh

ahara, madya, are described in ayurvedic classics. Avyam, diwaswapna and anidra are also among the causative e factor of sthoulya.

In general samsodhan, samsaman and nidan parivarjan chikitsa have been describe for sthoulya treatment in Ayurveda these include vaman, virechan, nasya, niruha vasti, udwartan, avagah, parishek etc as samsodhana karna and langhan, rukshan etc as samsaman karma and last but not the least pathya - apathya regimen are very essential for management of sthoulya.

AIMS AND OBJECTIVE

- To study the aetio-pathogenesis of sthoulya
- To evaluate the effect of haritakyadi churna in the management of sthoulya
- To provide safe and cost effective treatment for the sthoulya

MATERIALS AND METHOD

Selection of patient

 Total 50 number of willing pateint of either sex having sthoulya (BMI more than 25) were selected according to inclusion and exclusion criteria from the OPD/IPD of SGMPG Ayurvedic college and hospital saheri gazipur. These patient were divided randomly in two groups having 25 number in each group.

Study design-

 Study type- randomized single blind clinical trial

Duration- 3months (follow up at interval of one months)

Inclusion criteria

- Patients having BMI more than 25
- Patient having BMI more than 25 and associated disorder like HTN and diabetes

Exclusion criteria

- Patients having congenital obesity
- Patients having obesity with pregnancy
- Patient having obesity with arrythmia, AMI, valvular disease, congestive heart failure etc.

Diagnostic criteria

- Patient having BMI more than 25

 Subjective criteria- ksudraswas

Objective criteria-

- Weight
- BMI
- TOTAL CHOLESTEROL
- TOTAL GLYCERDE
- LOW DENSITY LIPID
- HDL

DRUG SOURCE-

Haritakyadi churna was prepared in the college pharmacy by mixing equal parts of the fruits of haritaki, pippali, roots of vacha and pooshakar mool and rhizome of nahar and shati and rasna leaves in powder form.

Posology- 5gram BD with water.

Treatment protocol-

Patients were divided into two group i.e group A and group B

Group A is administered with research drug and group B is treated with atorvastatin.

Criteria for assessment of kshudraswas-

- Dysponoea after heavy work- 1
- Dysponoea after moderate work-2
- Dysponoea after little work-3
- Dysponoea in resting condition - 4

Criteria for assessment of objective parameter

All objective parameter were observed before treatment and then at an interval of one month for three consecutive month.

Ingredient of haritakyadi churna

Sr. No.	Ingredient	Botanical Name	Family	Rasa	Guna	Virya	Vipaka	Dosakarma
1	Haritaki	Terminalia Chebula	Combretaceae	Panchrasa Lavan Varjita	Ruksha, Laghu	Ushna	Madhura	Troidoshaghna
2	Vacha	Acorus Calamus	Araceae	Katu Tikta	Laghu	Ushna	Katu	Vatkapha Hara
3	Rasna	Pluchea Lanceolata	Compositae	Guru	Tikta	Ushna	Katu	Vatakaphahara
4	Pippali	Piper Longum	Piperaceae	Katu	Snigdh Laghu	Anushna	Madhur	Vatakapha Hara
5	Nagar	Zingiber Officinalis	Zingiberaceae	Katu	Laghu Snigdh	Ushna	Madhur	Vatakaphahara
6	Shati	Hedychium Spicatum	Scitaminaceae	Kashaya Tikta	Laghu	Anushna	Katu	Vatakhaphahara
7	Pooshkar Mool	Inula Racemosa	Asteraceae	Katu Tikta	Laghu Tikshna	Ushna	Katu	Vatakaphahara

Assessments of result-

The data collected according to above mentioned criteria were compared before and after treatment in term of mean reduction and compared statistically by using paired t test. The result was considered significant if the p value was less than 0.05.

OBSERVATION AND RESULT

Incidence of BMI

BMI	No of patient	Percentage
25-30	28	56
30-35	22	44
35-40	00	00

Effect of therapy and result

Effect of both treatment group on kshudraswas-

Group	MEAN SD				Difference Before And After Treatment	Paired T Test
	Before Treatment	First Follow Up	Second Follow Up	Third Follow Up		
Group A (n =25)	2.062 ± 0.826	1.562 ± 0.704	0.812 ± 0.526	0.687 ± 0.582	1.375 ± 0.484	t = 11.363 p < 0.001
Group B (n =25)	1.875 ± 0.695	1.125 ± 0.484	0.5 ± 0.5	0.437 ± 0.496	1.437 ± 0.496	t =11.558 p < 0.001

Symptom of kshudrasswas was significantly reduced with p value less than 0.001 and the mean reduction in symptom was 1.375 in group A and the same was 1.437 in group B.

Effect of treatment groups on weight of patient

Group	MEAN SD				Difference Before And After Treatment	Paired T Test
	Before Treatment	First Follow Up	Second Follow Up	Third Follow Up		
Group A (n =25)	71.92±9.57	71.58±9.83	70.10±9.59	68.64±9.67	3.28±0.10	t = 18.413 p < 0.001
Group B (n =25)	72.54±9.06	72.01±9.43	69.07±8.45	67.23±5.44	5.27±3.62	t =19.675 p < 0.001

The reduction in mean weight of group A was 3.28 and the same in group B was 5.27. Statically analysis show significant result with p value less than 0.001.

Effect of treatment group on BMI.

Group	MEAN SD				Difference Before And After Treatment	Paired T Test
	Before Treatment	First Follow Up	Second Follow Up	Third Follow Up		
Group A (n =25)	27.196 ± 1.359	26.576 ± 1.2	25.696±1.01	24.864±1.004	2.332±0.355	t = 14.094 p = 0.001
Group B (n =25)	27.444±1.468	26.944±1.468	26.312±1.405	25.284±1.598	2.160±0.13	t =17.094 p <0.001

The mean of BMI reduced by 2.332 in group A and the same was reduced by 2.160 in group B. Statically result was significant as the p value was less than 0.001.

Effect of treatment group on total cholesterol

Group	MEAN SD				Difference Before And After Treatment	Paired T Test
	Before Treatment	First Follow Up	Second Follow Up	Third Follow Up		
Group A (n =25)	257.36±27.65	250.60±27.70	242.88±27.02	237.68±26.33	19.68±1.32	t = 14.12 p < 0.001
Group B (n =25)	253.52±32.64	248.92±32.39	242.00±31.38	238.56±33.62	14.96±0.98	t =5.696 p < 0.001

Total cholesterol reduction in mean was 14.11 for group A and the same for group B was 5.696 both result were statically significant as the p value was less than 0.001 in both cases.

Effect of treatment group on triglyceride

Group	MEAN SD				Difference Before And After Treatment	Paired T Test
	Before Treatment	First Follow Up	Second Follow Up	Third Follow Up		
Group A (n =25)	243.08±31.56	240.00±31.88	244.12±32.96	233.60±32.99	9.48±1.43	t = 6.015 p < 0.001
Group B (n =25)	255.56±30.88	248.84±33	245.28±32.71	242.84±31.92	12.72±1.03	t =6.959 p < 0.001

Triglycerin value in both group reduced significantly with p value less than 0.001 and reduction

in mean value was 6.015 for group A and the same for group B was 6.959

Effect of treatment group on LDL.

Group	MEAN SD				Difference Before And After Treatment	Paired T Test
	Before Treatment	First Follow Up	Second Follow Up	Third Follow Up		
Group A (n =25)	131.00±13.08	128.44±14.14	126.20±12.55	124.72±11.97	6.28±1.11	t = 4.786 p < 0.001
Group B (n =25)	138.60±20.16	135.04±19.97	131.48±20.74	129.12±21.75	9.48±1.59	t =4.382 p < 0.001

Before and after treatment data show a highly significant result with p value less than 0.001 in reduction of LDL for both group with mean reduction of 6.28 in group A and the same for group B was 9.48.

Effect of treatment group on HDL

Group	MEAN SD				Difference Before And After Treatment	Paired T Test
	Before Treatment	First Follow Up	Second Follow Up	Third Follow Up		
Group A (n =25)	38.44±13.91	36.84±13.63	37.20±12.98	38.60±12.55	0.16±1.36	t = 0.189 p > 0.05
Group B (n =25)	34.16±9.83	34.20±7.12	33.84±7.09	35.12±8.46	0.96±1.37	t =5.75 p >0.05

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The above data shows a non-significant reduction in HDL level in both treatment group as the p value was greater than 0.05 and the mean reduction in HDL value before and after treatment was 0.16±1.36 and 0.96±1.37 respectively in group A and group B.

DISCUSSION-

After the clinical trial result show that there is a remarkable and significant change in the subjective and objective parameter of the sthoulya. It is also observed that the research drug does not affect the value of HDL. The research drug reduces cholesterol, triglyceride, LDL and body weight of the patient, thus helps in reduction of BMI. The above mentioned result were may be due to vatakaphahara properties, ushna virya and laghu tikshna guna of the ingredient of the research drug.

CONCLUSION

On the basis of all above we are of the opinion that indigenous drug compound haritakyadi churna has a good lioid lowerinf capacity can be used as a lipid lowering agest as well as in the management of symptoms of sthoulya. However it is a primary study and require more

comprehensive observation and investigation to reach broad conclusion.

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