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## Clinical Trial of Phalatrikadi Yoga in the Management of Hyperlipidemia

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### ABSTRACT

Sthaulya or Obesity is a metabolic disorder and it is common among those people who consume excessive medakara ahar and vihar, lack physical activity, those who experience stress, improper dietary habits etc. W.H.O. now considers obesity to be a global epidemic and a public health problem. The major health consequences associated with obesity are cardiovascular diseases (coronary artery disease), hypertension, type-2 diabetes mellitus, dyslipidemia, osteoarthritis etc. Obesity is a chronic disease and its prevalence is increasing day by day in both developed and developing countries. As per Ayurveda, Acharya Charak has counted sthauilya under the eight varieties of impediments which are designated as nindita purusha. In ayurvedic classics herbal and herb-mineral medicine has been described in management of sthauilya. A clinical trial of phalatrikadi yoga was done on 30 cases at Kayachikitsa Department, Govt. Ayurvedic College and Hospital, Jalukbari for sthauilya treatment. A single group of patient was advised to take orally phalatrikadi yoga (churn) 3gm twice daily with luke warm water or tila taila for a period of 3 month. During the present clinical study it was observed that phalatrikadi yoga has a significant effect on sthauilya (medaroga) by lowering the elevated lipid profile and reducing weight. No side effects observed during the clinical trial

### KEYWORDS

*Hyperlipidemia, Obesity, Sthauilya, Phalatrikadi yoga*



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## INTRODUCTION

Obesity is a chronic metabolic disorder and its prevalence is increasing day by day in both developed and developing countries. Due to the increased risk of morbidity and mortality, obesity is now being recognized as a disease in its own right. In India, with industrialization and urbanization, prevalence of obesity is also increasing. Obesity can be correlated with sthulya in ayurveda. As per Ayurveda, Acharya Charak has counted sthulya under the eight varieties of impediments which are designated as nindita purusha.<sup>1</sup>

Overweight and obesity are defined as abnormal or excessive fat accumulation in body that may impair health. WHO definition of overweight and obese for adults

Overweight: BMI is  $\geq 25$ .

Obesity: BMI  $\geq 30$ .

Raised BMI is a major risk factor for non communicable diseases such as cardiovascular diseases (mainly heart diseases and stroke) diabetes, musculoskeletal disorders etc.

Definition of dyslipidemia: national cholesterol education program (NCEP) guidelines were used for definition of dyslipidemia as follows:

Hypercholesterolemia: serum cholesterol levels  $>$  or equal to 200mg/dl.

Hypertriglyceridemia: serum triglyceride levels  $>$  or equal to 150mg/dl

Low HDL cholesterol: HDL cholesterol level  $<40$  mg/dl for men and for women  $<50$  mg/dl.

High LDL cholesterol: LDL cholesterol level  $>$  or equal to 130mg/dl.

High total cholesterol to HDL-C ratio  $>$  or equal to 4.5

## AIM AND OBJECTIVES

1. To evaluate the efficacy of phalatrikadi yoga<sup>2</sup> in hyperlipidemia.

## MATERIALS AND METHODS

Plan of study:

A clinical trial was conducted at Govt. Ayurvedic College and Hospital Ghy-14, in the Dept. of kayachikitsa on 30 patients.

INCLUSION CRITERIA:

1. Patients between age group (20 -70) years of either sex.
2. Patients having at least one of the following criteria are to be selected for study-

T. Cholesterol  $>$  200 mg/dl

Triglycerides  $>$  150 mg/dl

HDL  $<$  40 mg/dl

LDL  $>$  130 mg/dl

3. BMI  $>$  25

EXCLUSION CRITERIA:

1. Age: Patient below 20 years and



above 70 years.

2. Pregnant lady
3. Chronic Renal failure
4. Carcinoma

### Study design

Open clinical study in one group of patient was done at OPD and IPD on 30 patients. Phalatrikadi yoga<sup>2</sup> churna, 3g in divided doses with luke warm water given orally for a period of 3 month.

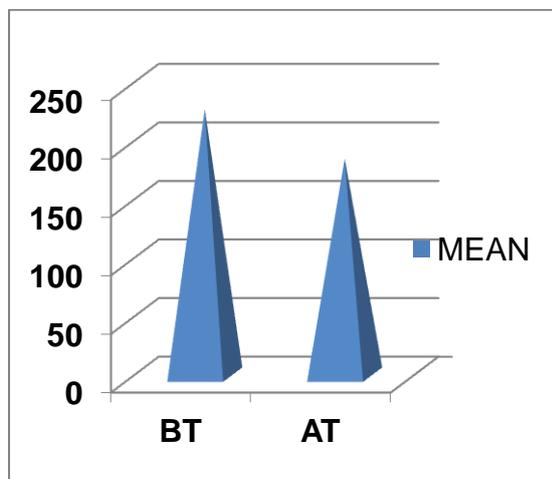
Ingredients of trial medicine-phalatrikadi yoga<sup>2,3</sup>.

| SANSKRIT NAME   | BOTANICAL NAME             |
|-----------------|----------------------------|
| Amalaki         | Emblica officinalis Gaertn |
| Haritaki        | Terminalia chebula Retz.   |
| Vibitaki        | Terminalia bellerica Roxb  |
| Pippali         | Piper longum linn.         |
| Marica          | Piper nigrum linn          |
| Sunthi          | Zingiber officinale.       |
| Saindhava lavan | Mineral                    |

**Table 2 Effect of treatment on cholesterol (n=30)**

| Duration(90days) | Mean  | DF | SD    | SE | T    | P     | Remarks |
|------------------|-------|----|-------|----|------|-------|---------|
| BT               | 226.9 | 29 | 71.12 | 13 | 3.25 | <0.01 | S       |
| AT               | 184.6 |    |       |    |      |       |         |

t 29 =3.25, p<0.01, hence the result is significant. It shows the trial drug signifies in reducing cholesterol level (Table2, Fig 1)



**Fig 1** Reduction if Cholesterol

### Follow - up study

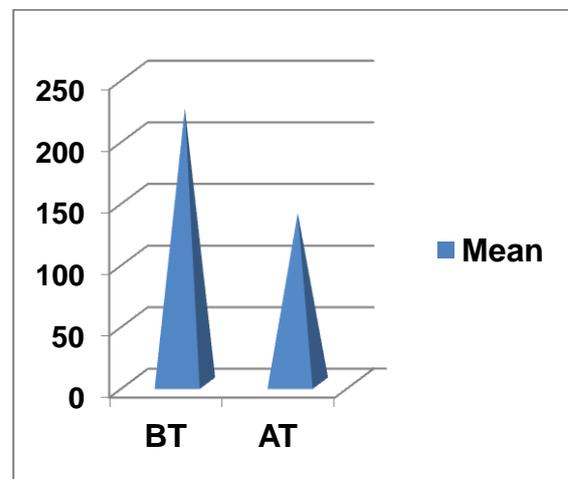
The changes with the treatment were observed and recorded on 30 days, 60 days and 90 days. Selection of drugs<sup>4</sup>

Phalatrikadi yaga indicated in medaroga is mentioned in yagaratnakar medaroga chikitsa slok no 5, page no (98-102).

## OBSERVATION AND RESULTS

### Statistical

- Lipid profile reports were taken as parameter for analysis of the result.
- As the sample size was 30, so paired ‘t’ test was applied to know the significance of efficacy of *phalatrikadi yoga*.



**Fig 2** Reduction if Triglycerides



**Table 3: effect of treatment on triglycerides (n=30)**

| Duration(90days) | Mean  | DF | SD    | SE   | T    | P     | Remarks |
|------------------|-------|----|-------|------|------|-------|---------|
| BT               | 223.3 | 29 | 154.2 | 28.5 | 3.16 | <0.01 | S       |
| AT               | 138.2 |    |       |      |      |       |         |

$t_{29}=3.16$ ,  $P<0.01$ , hence the result is significant. It shows the trial drug signifies in reducing triglycerides level (Table 3, Fig 2)

## CONCLUSION

It can be concluded that *phalatrikadi yoga* is effective in the management of hyperlipidemia. No side effect was noted during treatment. Though this is a preliminary study as a part of the educational research programme with limited number of patient in a fix stipulated time, in order to establish the effect of this drug further clinical and experimental study is required in view of modern and scientific approach.



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