



# International Journal of Innovative Pharmaceutical Sciences and Research

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## A CLINICAL STUDY TO EVALUATE THE EFFECT OF TRAYOSHNAI GUGGUL IN THE MANAGEMENT OF HYPERLIPIDEMIA

<sup>1</sup>Dr. Shashank Sharma\*, <sup>2</sup>Dr. A.K. Singh, <sup>3</sup>Dr. A.K. Shrivastava, <sup>4</sup>Dr. Ramakant Dwivedi

<sup>1</sup>P.G. scholar, Dept. of Kaya chikitsa, shubhdeep Ayurved Medical college,  
Indore M.P., INDIA

<sup>2</sup>Professor and HOD Dept. of Kaya chikitsa, shubhdeep Ayurved Medical college,  
Indore M.P., INDIA

<sup>3</sup>Professor, P.G. Dept. of Rasa shastra, shubhdeep Ayurved Medical college,  
Indore M.P., INDIA

<sup>4</sup>Assistant Professor, Dept. of Kaya chikitsa, shubhdeep Ayurved Medical college,  
Indore M.P., INDIA

### Abstract

The people know what to eat but they don't know how to eat ? Even other medical science are very little aware about dietetic rules. Acharya Charaka has mentioned Aharvidhi vidhana the dietetic rules and codes of conduct for every season. Now-a-days people do not follow the rules of diet intake and regimen mentioned in Ritucharya. This has invited increased incidence of disease like Amlapitta, Prameha, Rakta Vata, Medoroga etc. In context of Medoroga, So excess intake of fatty diet to excess deposition of lipid in the body. In the present study it was observed that among 30 patient 4 patient (13.33%) were cured, 19 patients (63.34%) were Marked improved, 7 patients (23.33%) have mild improved or mild improvement, no patient remained unchanged. Thus we can say that overall result of Trayoshnadi guggul has significant result on subjective as well as objective criteria.

**Keywords:** Hyperlipidemia, Sneha Medoroga, Obesity, Ritucharya.

### Corresponding Author:

**Dr. Shashank Sharma**

P.G. scholar,

Dept of Kaya chikitsa,

Shubhdeep Ayurved Medical college,

Indore M.P., INDIA

**E-mail:** shashank.sharma.775823@gmail.com / dr.ramakant2002@gmail.com

**Phone:** +91- 8109644757



## INTRODUCTION

Ayurveda is the oldest science serving the world. It is upveda of Atharvaveda. Ayurveda is the science of life. The Fundamentals of Ayurveda gives healthy human life. Today is the era of modernization and fast life everybody is busy and living stressful life. Man is also ignoring of physical activity such as Dincharya, ritucharya and dietary habits so the fat along with cholesterol is increasing in body which invites the disorders like Hyperlipidemia. According to W.H.O. Hyperlipidemia is the fifth leading risk of global deaths. At least 2.8 million adults die each year as a result of being overweight or obese [1].

There is no precise term for ‘Hyperlipidaemia’ in Ayurvedic Classics. Literature shows that scholars have tried to use distinct nomenclature to define it as Rasagata Snehavruddhi, Rasa-Raktagata Snehavruddhi, Medoroga or Medodosha. In classical Ayurvedic texts, the word *Medo Roga* has been interchangeably used as *Sthaulya Roga*. Only Aadhamalla while commenting on *Sharangdhara Samhita*, tried to differentiate between the two types of *Medo Dosha* i.e. *Medo Vridhi* and *Medo Dosha*. Based on the various opinions mentioned above, hyperlipaemia can well be correlated with *Medodosha* as interpreted by Acharya Aadhamalla [2].

According to Acharya Charaka, the *Sarabhaga* or the *Annarasa* of the ingested food which is the result of action of both the *Jatharagni* and the *Bhutagnis* is directly absorbed from the *Amashaya* and is circulated throughout the body by means of *Dhamanis*. After the action of *Bhutagnis*, the *Upadana Medo Dhatu* thus formed is further subjected to the action of *Medodhatvagni* [3]. Chakrapani has mentioned two types of *Dhatuviz.*, *Asthayi* and *Sthayi Dhatu* [4] after the action of *Dhatvagni*. Of these, the *Asthayi Dhatu* are the precursors of the *Sthayi Dhatu* and are circulated throughout the body by means of *Srotas* which is specific for each *Dhatu*. The *Asthayi* or *Poshaka Medo Dhatu* thus formed circulates through the *Medovaha Srotas* for nourishing the *Medo Dhatu*. This is in accordance with the Ayurvedic principle – “*Dhatu Pushyati Dhatutaha*” i.e; nourishment of the *Dhatu* via the *Dhatu* themselves [5].

According to Vagbhata [6] when *Dhatvagni* is hypo-functional, it leads to increased synthesis of the *Dhatu* whereas its hyper-functioning will lead to a quantitative decrease. The same can be applied to *Medodhatvagni* which on impairment would eventually lead to either *Atisthaulyata* or *Karshyata*. In case of the hypo-functioning of the *Medodhatvagni*, homologous nutrients present in circulation as the *Poshaka Medo Dhatu* (comprising of different categories of lipoproteins) will be in excess in circulation leading to the condition of increased quantity of *Abaddha Meda* or

*Asthayi Medo Dhatu* which is known as lipid. So The Lipids in contemporary science can be correlated with 'Medas' and hence Medohara treatment can be established within the treatment of Hyperlipidemia. The excess of fats during this 'Physiology' gradually involve Doshas, Dhatus and Mala in body and causes Hyperlipidemia, Heart Diseases, Hypertension, Joint disorders and Obesity.

Most of the drugs (statins) available today are inhibitors of 3-Hydroxy- 3 Methylglutaryl Coenzyme A, a reeducates which is involved in Cholesterol Biosynthesis in Liver. Literature shows that use of statins mostly develops a risk of chronic toxic effects including carcinogenic, teratogenic and mutagenic changes over a lifetime of use. Keeping this in view, present study entitled "A clinical study to evaluate the effect of trayoshnadi guggul [7] (B.P.S. 39/31) in the management of Hyperlipidemia." was carried out.

## MATERIAL AND METHOD

This is an open clinical trial conducted in O.P.D / I.P.D wing of P.G. Department Kayachikitsa of Shubhdeep Ayurved medical college & Hospital Indore. Patient were randomly selected and included my study after proper investigation & provisional diagnosis. 30 patient of Hyperlipidemia were selected from both sexes and age range for 18-70 as per my proforma and those who were interested to participate in the study after their written consent. Inclusion Criteria: Patients willing for the trial & able to participate for 6 weeks after consent. All the patients of inclusion criteria would be kept on washout period for 15 days.

**SUBJECTIVE CRITERIA:** Signs and Symptoms (Related to medoroga & sam kapha)

- I. KShudha nasha
- II. Kshudra Shwasa
- III. Pipasa-atiyoga
- IV. Nidradhikya
- V. Daurbalya

**OBJECTIVE CRITERIA:** Hyperlipidemia based on lipid profile

- 1) Total cholesterol ->200(mg/dl)-350(mg/dl)
- 2) LDL->130(mg/dl)-250(mg/dl)
- 3) VLDL->35(mg/dl)-100(mg/dl)
- 4) Triglycerides->150(mg/dl)-200(mg/dl)

### Exclusion Criteria:

Patients not willing for trial.

Patients not fulfilling the inclusion criteria.

Hyperlipidemia due to endocrinal disorder like Hypothyroidism, Cushing syndrome etc.

Drug induced Hyperlipidemia which includes long-term intake of OCP,

B- Blockers & corticosteroids. Patient with evidence of malignancy.

**Table 1: DRUG DETAILS:- TRAYOSHNAI GUGGUL Ref No: BHAV PRAKASH SAMHITA ( 39/31)**

| Sl. No. | INGREDIENTS           | QUANTITY |
|---------|-----------------------|----------|
| 1       | Shunthi churna        | 1 Part   |
| 2       | Maricha churna        | 1 Part   |
| 3       | Pipli churna          | 1 Part   |
| 4       | Chitraka moola churna | 1Part    |
| 5       | Mushta churna         | 1 Part   |
| 6       | Vayvidang             | 1 Part   |
| 7       | Vacha                 | 1Part    |
| 8       | Mahishaksh gugglu     | 7 part   |
| 9       | Goghrit (Cow ghee)    | 7 part   |

Dose: 2 gm daily in two equal divided dose

- Route of Administration : Oral
- Time of Administration : After meal
- Duration of therapy: 45 days
- Anupan : Luke warm water•

### RESEARCH METHOLOGY:

**Study type:** Interventional

**Masking :** Open study

**No of group :** 1

**Sample size :** (30 patient )

**Study site:** O.P.D. / I.P.D. wing of P.G. Department of Kayachikitsa, Shubhdeep• Ayurved medical college & Hospital Indore. All the subject for the study be advised wholesome diet and regimen as they helps to reduce cholesterol levels in body.

### CRITERIA FOR ASSESSMENT

All the patient followed & examined every 15th days during the treatment Assessment on the basis of subjective and objective criteria, and relief in the sign and symptoms of the disease was noted.

## RESULT

Total 32 patients were registered for treatment and 30 patients completed the treatment. Effect of therapy on treated patients and the results are being tabulated below.

**Table 2**

| S.NO | SYMPTOMS       | BT   | AT   | DIFF. | PER.RELIEF |
|------|----------------|------|------|-------|------------|
| 1    | Kshudha vridhi | 61   | 25   | 36    | 59.01%     |
| 2    | Kshudra svasa  | 43   | 19   | 24    | 55.81%     |
| 3    | Pipasatiyoga   | 69   | 25   | 44    | 63.76%     |
| 4    | Nidradhikya    | 62   | 18   | 44    | 70.96%     |
| 5    | Daurabalya     | 73   | 21   | 51    | 71.23%     |
|      | Avg Score      | 61.6 | 21.6 | 39.8  | 64.15%     |

### Effect of therapy on symptom score

It was observed that overall % relief was 64.15%. The symptoms such as Kshudha vridhi percentage relief was 59.01% in Kshudra-Shwasa it was 55.81%, In Pipasa-atiyoga percentage relief was 63.76%. While in Nidradhikaya there was 70.96% percentage relief was observed. In Daurabalya 71.23% relief was observed. Thus over all percentage relief was 64.15%.

**Table 3: Showing effect on symptoms of patients of by Wilcoxon-matched-pairs-signed-ranks test**

| Sl.no | Symptoms      | Mean  | SD     | SE     | Sum of all signed ranks (W) | No. of pairs | P       |
|-------|---------------|-------|--------|--------|-----------------------------|--------------|---------|
| 1     | Kshudh vridhi |       |        |        |                             |              |         |
|       | BT            | 2.033 | 0.6149 | 0.1123 | 300                         | 24           | <0.0001 |
|       | AT            | 0.833 | 0.5921 | 0.1081 |                             |              |         |
|       | Diff.         | 1.200 | 0.7611 | 0.1390 |                             |              |         |
|       |               |       |        |        |                             |              |         |
| 2     | Kshudra svasa |       |        |        |                             |              |         |
|       | BT            | 1.433 | 0.6789 | 0.1240 | 210                         | 20           | <0.0001 |
|       | AT            | 0.633 | 0.4901 | 0.0894 |                             |              |         |
|       | Diff.         | 0.800 | 0.6644 | 0.1213 |                             |              |         |
|       |               |       |        |        |                             |              |         |
| 3     | Pipasatiyog   |       |        |        |                             |              |         |
|       | BT            | 2.300 | 0.5960 | 0.1088 | 406                         | 28           | <0.0001 |
|       | AT            | 0.833 | 0.4611 | 0.0841 |                             |              |         |
|       | Diff.         | 1.467 | 0.6288 | 0.1148 |                             |              |         |
|       |               |       |        |        |                             |              |         |
| 4     | Nidradhikya   |       |        |        |                             |              |         |
|       | BT            | 2.067 | 0.6915 | 0.1262 | 465                         | 30           | <0.0001 |
|       | AT            | 0.600 | 0.4983 | 0.0909 |                             |              |         |
|       | Diff.         | 1.467 | 0.5074 | 0.0926 |                             |              |         |
|       |               |       |        |        |                             |              |         |
| 5     | Daurbalya     |       |        |        |                             |              |         |
|       | BT            | 2.433 | 0.7279 | 0.1329 | 378                         | 27           | <0.0001 |
|       | AT            | 0.700 | 0.4661 | 0.0851 |                             |              |         |
|       | Diff.         | 1.733 | 0.9072 | 0.1656 |                             |              |         |
|       |               |       |        |        |                             |              |         |

Statistical analysis of the effect of therapy on symptoms of by Wilcoxon-matched-pairs-signed ranks test.

### Kshudhavridhi

Sum of all signed ranks was 324. the no. of pairs was 26 .P value was<0.0001 which was statistically extremely significant.

### Kshudrasvasa

Sum of all signed ranks was 210. The no. of pairs was 20. P value was<0.0001 which was statistically extremely significant.

### Pipasatiyoga

Sum of all signed ranks was 406. The no. of pairs was 28. P value was 0.2524 which was statistically extremely significant.

### Nidradhikhya

Sum of all signed ranks was 465. The no. of pairs was ..P value was <0.0001 which was statistically extremely significant.

### Daurbalyta

Sum of all signed ranks was 378. The no. of pairs was 27.. P value was <0.0001 which was statistically extremely significant.

**Table 4: Showing Effect of therapy by using paired t Test on Objective parameters (Before & after Treatment)**

| Sl.no | Symptoms        | Mean   | SD     | SE    | t value | Degree Of freedom | P            |
|-------|-----------------|--------|--------|-------|---------|-------------------|--------------|
| 1     | SR.CHOLESTROL   |        |        |       |         |                   |              |
|       | BT              | 267.0  | 10.981 | 2.005 | 23.772  | 29                | <0.0001 (ES) |
|       | AT              | 184.37 | 17.478 | 3.191 |         |                   |              |
| Diff. | 82.63           | 19.038 | 3.476  |       |         |                   |              |
| 2     | SR.LDL          |        |        |       |         |                   |              |
|       | BT              | 187.75 | 19.267 | 3.518 | 13.998  | 29                | <0.0001 (ES) |
|       | AT              | 126.27 | 17.009 | 3.105 |         |                   |              |
| Diff. | 61.487          | 24.058 | 4.392  |       |         |                   |              |
| 3     | SR.TRIGLYCERIDE |        |        |       |         |                   |              |
|       | BT              | 164.92 | 8.425  | 1.538 | 29.766  | 29                | <0.0001      |
|       | AT              | 101.60 | 8.681  | 1.585 |         |                   |              |
| Diff. | 63.322          | 16521. | 2.127  |       |         |                   |              |

1) **Sr.Total Cholesterol:** Serum Total Cholesterol values were decreased . [Before Treatment mean was 267.0 and After Treatment mean found to be 184.37] In. **Paired t test t value was 23.772, P < .0001**, which was statistically extremely significant.

2) **Sr. LDL:** Serum LDL values were decreased , [Before Treatment mean was 187.75 and After Treatment mean found to be 126.27] . In **Paired t test** was t value was 13.998 P < .0001, which was statistically Extremely significant.

**3) Sr. Triglyceride:** Serum Triglyceride values were decreased, [Before Treatment mean was 164.92 and After Treatment mean found to be 101.60]. In **Paired t test** was t value was 29.766  $P < .0001$ , which was statistically Extremely significant.

In the present study it was observed that among 30 patient 4 patient (13.33%) were cured, 19 patients (63.34%) were Marked improved, 7 patients (23.33%) have mild improved or mild improvement, no patient remained unchanged. Thus we can say that overall result of Trayoshnadi guggul has significant result on subjective as well as objective criteria.

## DISCUSSION

Trayoshnadi guggul contains shunthi churna, Marich churna, Pippli churna, Chitrak mula churna, Musta churna, Vayvidang vacha, Mahishaksh guggul and Goghrit. In this shunthi is Katu rasa pradhan ushna veerya in nature. It is Agnideepak and ama pachan in nature [8]. Marich is katu rasa katu vipaka and Ushna veerya in nature, so it is kaphshamak in nature [9]. Pippli is kapha vata shamak in nature, [10] chaitraka is deepan pachan in nature because it has laghu ruksha guna katu vipak ushana veerya, it is agni deepana and mednashak in nature [11]. In the same way mustak and vidanga are deepan in nature [12]. Vacha is katu rasa laghu, teekshna kaph vata shamak in nature [13]. It is clear that all these drugs are kaphaghna, Ama pachana in nature so the drug increases agni and decreases ama so vitiation of rasa dhatu improved.

## CONCLUSION

**On the basis of concept:** *Hyperlipidemia* is a life style disorder caused due to mandagni and vitiation of kapha. In modern era, high consumption of junk and oily food along with anxiety and depression are main cause of *Hyperlipidemia*. Kshudha Vridhi, Kshudra svasa Pipasatiyoga, Nidradhikaya, Daurblya and Sandhi-Shoola are inevitable manifestations of *Hyperlipidemia*. Acharya Charaka has mentioned Aharvidhividhana, the dietetic rules and codes of conduct for every season. Now-a-days people do not follow the rules of diet intake, Regimen mentioned in Ritucharya. This has invited increased incidence of *Hyperlipidemia*. Agnimandya, Ama and Srotodusti are the prime factors in the manifestation of the disease. Pathyapthya plays definite role in the management of *Hyperlipidemia*. Drug having properties like Deepana, pachana, and lekhan are useful in the treatment of *Hyperlipidemia*.

**On the basis of observation:** Patients having Kapha-Vata prakriti are more affected by this disease than other Prakriti. Patients of Middle age group are more affected by this disease than other age group. Patients having constipation or irregular bowel habit are more effected by this

disease. Patients having mental stress are more affected by this disease. . Patients having Mixed in diet are more affected by this disease than veg. diet

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