

A COMPARATIVE STUDY OF GUDUCHYADI YOGA AND MEDOHAR GUGGULU IN THE MANAGEMENT OF MEDOROGA

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<https://doi.org/10.46607/iamj06p5012020>

(Published online: November 2020)

Open Access

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Article Received: 15/11/2020 - Peer Reviewed: 26/11/2020 - Accepted for Publication: 27/11/2020



ABSTRACT

W.H.O. has evolved a social target of “Health for all” by the year 2000. To achieve this Indian Govt. has evolved number of health and social policies. In these “Prevention” plays an important role. To reach this goal, promotion of health, raising the standards of community health and prevention of the disease is important.

People know what to eat but they don't know how to eat. *Acharya Charaka* has mentioned *Aharavidhividhana* (dietary guidelines), the dietic 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* (seasonal regimen). This has invited increased incidence of diseases like *Amlapitta* (hyperacidity), *Prameha* (Diabetes mellitus), *Hridroga* (Heart disease), *Medoroga* (Obesity) etc. In the context of *Medoroga*, *Madhukosha* mentions *Sneha* (oil or fat) as the factor from which *Meda* (fat) is formed. All the *Dhatu* nourishes mainly by *Sneha*. So excess intake of fat leads to excess deposition of lipid in the body. Two groups were registered to compare the effectiveness of *Guduchyadi Yoga* and *Medohar Guggulu* in the above disease. In group A, out of 25 patients, 14 patients (56%) were treated effectively, 04 patients (16%) had moderate improvement, 02 (08%) had mild improvement, while 05 (20%) showed insignificant result. In group B, out of 25 patients 09 patients (36%) were treated effectively, 02 (08%) patients had moderate improvement, 01 (04%) patient had mild relief while 13 patients (52%) showed insignificant result.

Although satisfactory result obtained on various parameters with *Medohar Guggulu* but *Guduchyadi Yoga* is highly effective remedy for *Medoroga* as compared to *Medohar Guggulu*.

Keywords: Obesity, *Medoroga*, *Sneha*, *Ritucharya*, *Athishoulya* (Overweight).

INTRODUCTION

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have a negative effect on health. Obesity is a life-threatening disease. Obese people are more likely than others to develop major illnesses such as cardiovascular diseases, gall bladder diseases, DM and certain cancer. People are considered obese when their BMI exceeds 30kg/m².

In Ayurveda, text *Acharya Charaka* has described eight *Ninditiyapurushas*^[1] (undesirable persons/ conditions) according to body constitution & obesity is one of them. In Ayurveda Obesity (*Atishoulya*) is described as “*Medoroga*”. *Atishoulya* (overweight) is considered as one of the eight despicable condition as described in *Charak Samhita*. A person in whom there is excessive accumulation of *Meda* (adipose tissue) and *Mamsa* (flesh) leading to flabbiness of hips, abdomen and breast has been categorised as *Atishoulya*. Increase *Meda* is accountable for several serious consequences called *Ashtadoshas*^[2] (eight defects/ flaw) like *Ayuhrasa* (decrease of life span), *Javoparodha* (decrease in enthusiasm and activity), *Krichavyavayata* (decrease in sexual act), *Daurbalya* (decrease of strength), *Daurgandhya* (bad odour), *Swedabadh* (excess perspiration) and *Kshutpipasadhikya* (excessive hunger and thirst), *Mandotsaham* (less activity) referring to sedentary life style. *Atisnigdha* (excessive intake of fatty substances) and *Kshudhavridhi* (excessive eating) constitute for causation of *Prameha* and these etiological factors may initiate Dislipidemia.

Being an alarming problem, obesity needs effective and safe treatment. In the management of obesity *Bhutagni* [fire of five basic elements i.e. *Parthiva* (earth), *Apya* (water), *Tejas* (fire), *Vayavya* (air) and *Akash* (Sky-vacuum)] & *Dhatwagni* (Seven fire present one in each of the seven tissues) plays an important role^[3] so in *Ayurveda* there is wide scope of

research to find out safest remedy for the management of obesity. Ayurvedic medicines by the means of its *Doshashaman* [Pacification /suppression of *Doshas* (three humours *Vata*, *Pitta* & *Kapha*)] and *Shodhan property* (elimination) may prove to be better option in present situation. An effective management can be done other than only diet control. In present work a comparative study has been made to see the effect of *Guduchyadi Yoga & Medohar Guggulu* in the management of obesity.

Literature Survey:

In *Charak Samhita*, ‘*Charakacharya*’ has described eight ‘*Ninditiyaprakruties*’ (undesirable constitution) according to the body constitution. Among them, he has also mentioned *Atishoulya*. *Acharya Susruta* has described the aetiology, signs, symptoms and management of *Sthoulya* (obesity) in detail^[4]. In the ‘*Doshadividhivijnana*’ *Adhyaya* (chapter) of *Sutrasthana*, *Vagbhata* has described the symptoms of *Medovridhi* (excess fat) which are similar to *Atishoola* of *Charaka*^[5]. In *Madhavnidan*, *Madhavacharya* has made separate chapters for some diseases which are not separately mentioned in ancient texts e.g. *Amavata* (Rheumatoid arthritis) *Medoroga*, *Amlapitta*. He was the first who named ‘*Sthoulya*’ as *medoroga*^[6].

In *Sharangadhara Samhita*, only name of the disease *Medoroga* with some decoctions for the treatment are advised^[7]. *Bhavamishra* has described the *Medoroga* in all aspects in *Uttarakhand* (end part of book) in the chapter “*Sthoulyadhikar*”^[8], aetiopathogenesis view is same as *Charak* and *Susruta* but slight variations are noticed in the treatments. **Yoga Ratnakar** has described the *Medoroga* causes, its aetiopathogenesis, symptoms in *Medoroganidana* (aetiology of obesity) chapter^[9], treatment in *Medorogachikitsa* (treatment of obesity) chapter^[10]

Methodology:

Aim and Objectives:

1. To study the aetiopathogenesis of *Medoroga* (Obesity) according to both Ayurveda and modern science.
2. To assess the comparative effect of *Guduchyadi Yoga & Medohar Guggulu* in the management of *Medoroga*.

Materials and Methods-

1. *Guduchyadi Yoga*
2. *Medohar Guggulu*

Study Design-A minimum of 25 subjects in each group diagnosed as *Medoroga* were selected after fulfilment of inclusion criteria.

Inclusion Criteria:

1. Patients age between 16-70 years.
2. Patients willing for the trial & able to participate for 90 days after consent.
3. Patients suffering from *Medaswita* (Increase body weight), *Nirutsaha* (loss of alertness), *Daurbalya* (weakness), *Daugandhya* (Foul smell of body) *Kshudhadhikya* (Increase appetite), *Trishnadhikya* (Increase thirst) *Kshudraswasa* (Dyspnoea on exertion), *Sarvangajadhya* (Heaviness of body), *Atinidra* (Sleepiness), *Sandhivedana* (Knee Joint Pain) were selected irrespective of sex, religion, education, socio-economic status & marital status.
4. BMI >24

Exclusion Criteria:

1. *Medoroga* due to endocrinal disorders like Hypothyroidism, Cushing Syndrome etc.
2. Drug induced obesity and Hyper-lipidemia such as long- term use of OCP, Beta Blockers and corticosteroids.
3. Patients with evidence of Malignancy, Renal failure, Diabetes mellitus, Heart diseases.

Drug Review

- I. *Guduchyadi Yoga* (*Yoga Ratnakar, Medoroga Chikitsa 10/17*)¹⁰
- II. *Medohar Guggulu: (Bhaishajya Ratnavali Medoroga Chikitsa 39/43)*^[11]

I. Guduchyadi Yoga: It contains-*Guduchi* (*Tinospora Cordifolia*. Wall. Ex Seringe) *Nagarmotha*, *Triphala*

choornam [combination of three ingredients i.e. *Amalki* (*Embllica officinalis*), *Bibhitaki* (*Terminalia belerica*) & *Hareetaki* (*Terminalia Chebula*)] as main ingredients and *Takrarishtam & Madhu* as *Anupan*.

i) Guduchi- It is highly rich in antioxidants. Alkaloids: Berberin, Choline, Tembetarine, Magnoflorine, Tinosporin, Plmetine, Aporphin, Glycosides Tinocordiside, cordioside are present. It is best to cause astringent effect, promoting digestion, alleviating *Vata, Kapha*. It pacifies all three *doshas* ¹².

ii) Nagarmotha- *Cyperus rotundus*¹².

iii) Hareetaki- *Terminaliya Chebula* a Tannin, terchebin is isolated from fruits (Ann, Chem. 1967 706,169), Kernels palmitic, stearic, oleic, linoleic, arachidic and behenic acids are isolated. The fruits contain about 30% astringent substances chebulinic and tannic acid, gallic acid and chebulagic acid etc. By the combination of sweet and sour tastes it alleviates *Vata- Dosa*, pungent and bitter taste alleviates *Kapha Dosa* and astringent and sweet alleviates the *Pitta Dosa*. It has special potency (*Prabhav*) to alleviate all the three *Dosas*.¹³ In obesity, its use with honey reduces the excessive *Medas*.

iv) Amalki- The botanical name is *phyllanthus emblica*. *Amalki* is called *Dhatri* or nurse as it resembles a nurse or mother in its healing & soothing properties. *Amalki* is an all-round tonic & rejuvenator. The fruit is a rich source of vitamin C, triagalloylglucose, terchebin, corilangin, ellagic acid from fruit. It alleviates all *Tridosas*¹⁴.

v) Bibhitaki- In Sanskrit, "*Bibhitak* literally means the one that keeps you away from the diseases". The botanical term is *Terminalia belerica*. The fruit pulp contains a non- nitrogenous crystalline substance. A new cardiac glycoside bellericannin- isolated which yield glucose and galactose, B- sitosterol, gallic acid, ellagic acid, ethyl gallate, galloyl glucose and chebulagic acid isolated from fruits. It possesses a special potency (*Prabhav*) as laxative, it alleviates all the three *Dosas* specially *Kapha* and *Pitta*¹⁵.

vi) Takrarishtam-It is the poly-herbal acidic fermented preparation from cow milk. It helps to strengthen digestion i.e. *Agnideepana*. It does not vitiate pitta, is wholesome in *Kapha* due to astringent,

hot, *Vikasi* and rough properties and in *Vata* due to sweet, sour and viscous nature, thus it pacifies *Tridoshas*. It has the antimicrobial, *Grahi* (absorbing), digestive & carminative properties. It is beneficial in Diabetes, Ascitis, obesity, UTI, Chronic diarrhoea, *Prameha*, *Gulma* (abdominal flatulence), Piles, worms etc

v) **Madhu** –contains high level of monosaccharides, fructose and glucose, organic acids, minerals, trace elements, numerous vitamins, enzymes and proteins. The antioxidant capability of honey is linked to its polyphenol compounds. It has Hypoglycemic, *Medohar* (Antiobesity) Antiseptic & antibacterial properties. It alleviates the disorders of *Rakta*, *Pitta* and *Kapha*¹⁷.

II) **Medohar Guggulu**- It contains five ingredients i.e. *Shunthi*, *Chitrak*, *Marich*, *Pippali*, *Nagarmotha* and *Guggulu*.

i) **Shunthi**-The botanical name of *Sunthi* is *Zingiber officinale*. *Sunthi* is one of the ingredients of oftenly used preparation called *Trikatu*- meaning three pungents viz. *Sunthi*, *Maricha* (*Piper nigrum*) and *Pippali* (*Piper longum*). Ginger contains 1 -2 % of volatile oil and 5-8% resinous matter. Starch and mucilage *Sunthi* alleviate *Vata* and *Kapha Dosas* and controls the vitiation of *Pitta Dosa*¹⁸.

ii) **Chitrak**- The botanical name of *Chitrak* is *Plumbago zeylanica*. Binaphthaquin one ethitranone together with zeylinone isozeylinone, elliptinone and droserone isolated from roots, *Chitrak* is pungent and bitter in taste. It alleviates *Kapha* and *Vata dosas*. *Chitrak* digests the *Ama*, reduces the *sotha*.(swelling)¹⁹

iii) **Marich**- The fruit contains Volatile oil and the crystalline alkaloids piperine, piperidine and piperettine along with resin. It augments the appetite chiefly *Kapha* disease, obesity, colds, rheumatic diseases and Tumors²⁰.

iv) **Pippali**- *Piper longum*. The fruit contain 1% volatile oil, resin, a waxy alkaloid, a terpenoid substance and alkaloids piperine and piper longumine. It is an appetizer, digestant, rejuvenative, febari funge and a brain tonic (*Medhya*) and alleviates all the three *Dosas*. It is a powerful stimulant for the digestive and

respiratory system. *Trikatu* is the most popular formulation used to mitigate the diseases due to *Kapha Dosha*²¹.

iv) **Nagarmotha**- The botanical name: *Cyperus rotundus*. The plant contains at least 27 components comprising sesquiterpene hydrocarbons, epoxides, ketones, monoterpene and aliphatic alcohols and some unidentified constituents. It is one of the best herbs useful in digestive disorders. It is a keen stimulant for appetite, digestion of *Ama*¹².

v) **Guggulu**- *Commiphora Mukul*. Being *Thikta Kashaya* it is *Kaphaghna* and because of *Ushnaveerya* (hot potency) it is *Vataghna*. It aggravates *Pitta*, it is *Deepana* (improves fire) and *Pachana* (digestion) it eliminates aggravated *Kapha*. *Guggulu* has a specific action on aggravated *Meda*. It scrapes (*Lekhana*) accumulated *Meda* by its *Rooksha* (rough)and *vishad gunas* and by removing obstruction of *Meda* it facilitates movement of *Vayu*²². Since it eliminates *Kleda* (sliminess)from *Dhatu*s, onward movement of nutrients to subsequent *Dhatu* is facilitated. It contains resin, gum sisamin, cholesterol and a volatile oil. The oil contains steroidal ketone alcohol and aliphatictriol. Steroids contain guggulusterols. It is a potent hypocholesteremic hypolipidemic and Antiatherosclerotic agent.

I. **Guduchyadi yoga**-

Dose: 2gms. (1gm two times daily)

Route of Administration: Oral

Time of Administration: 6am & 6pm, empty stomach

Duration of therapy: 90 days

Anupan: *Takrarishta* (butter milk) and *Madhu* (honey)

II. **Medohar Guggulu**-

Dose - 2gm daily in two divided doses.

Route of Administration - Oral

Time of Administration – 6am & 6pm empty stomach

Duration of therapy – 90 days

Anupan (A specific vehicle/medium for taking medicine) - Lukewarm water

Research Methodology:

i) Study type: Interventional

ii) Masking: Open comparative study

iii) No. Of groups: 2

- iv) Sample size: 25 patients in each group
- v) Study site: O.P.D/ I.P.D. wing of P. G. Department of *Kayachikitsa*, L. K. Ayurveda Hospital, Yavatmal, Maharashtra (D.M.M Ayurveda Mahavidyalaya, Yavatmal).
- vi) Duration of Trial: 90 days

Subjective Criteria:

- 1. *Medaswita*, 2. *Nirutsaha*, 3. *Daurbalya*, 4. *Daurgandhya*, 5. *Kshudhadhikya*, 6. *Trishnadhikya*, 7. *Kshudraswasa*, 8. *Sarvangajadhya*, 9. *Atinidra*, 10. *Sandhivedana*

Objective Criteria: weight, B.M.I

Timelines: Total Study Period: Till the enrollment of required no. of patients.

Results

Treatment Period: 90 days,

Follow up Period: 15 days.

In both groups, patients were advised physical exercise like walking, diet restriction like avoidance of excess oily, spicy foods, excess sweets.

Criteria of Assessment: Subjective Symptoms as well as weight and B.M.I were taken into consideration for the assessment of results. Symptoms Height & Weight (to calculate BMI) were observed before treatment followed by every 15 days and after completion of trial. Intensity of symptoms were indicated by Grade 0- Normal, Grade 1- Mild, Grade 2- Moderate & Grade 3- Severe.

Table 1: Showing Comparison of Total Effect of Therapy on Two Groups

	t value	p value	Significance
Between group A & B	-2.857	<0.05	Yes

Table 2. Comparison –Gp. A & B-Statistical Analysis

Sr. No.	Symptoms	No. Of Patients				Chi-square value	P value	Significance
		Group A		Group B				
		Before T/t(BT)	After T/t(AT)	BT	AT			
1.	<i>Medaswita</i>	25	20	25	12	5.54	<0.05	Yes
2.	<i>Nirutsaha</i>	18	15	20	09	5.98	<0.05	Yes
3.	<i>Daurbalya</i>	21	16	20	12	1.23	>0.05	No
4.	<i>Daurgandhya</i>	20	15	18	08	6.65	<0.05	Yes
5.	<i>Kshudhadhikya</i>	23	19	22	10	6.74	<0.05	Yes
6.	<i>Trishnadhikya</i>	18	14	19	08	0.68	>0.05	No
7.	<i>Kshudraswasa</i>	19	14	21	09	3.86	<0.05	Yes
8.	<i>Sarvangajadhya</i>	17	14	19	08	1.48	>0.05	No
9.	<i>Atinidra</i>	22	19	21	09	8.94	<0.05	Yes
10	<i>Sandhivedana</i>	20	16	19	07	7.49	<0.05	Yes

Total Effect of Therapy: In group A, out of 25 patients, 14 patients (56.0%) were effectively cured, 04 patients (16.0%) had moderate improvement, 02 (08.0%) patients had mild improvement, while 05 patients (20.0%) showed insignificant result. In group B, out of 25 patients, 09 patients (36.0%) got effectively cured, 02 patients (08.0%) had moderate improvement, 01 patient (04.0%) had mild improvement while 13 patients (52.0%) showed insignificant result. It means

Guduchyadi Yoga is highly effective remedy for *Medoroga* as compared to *Medohar Guggulu*.

It was observed that overall % relief was more in Group A (79.72%) than in Group B (44.96%). The symptoms *Medaswita*, *Nirutsaha*, *Daurbalya*, *Daurgandhya*, *Kshudhadhikya*, *Trishnadhikya*, *Kshudraswasa*, *Sarvangajadhya*, *Atinidra* and *Sandhivedana* were studied as described in table. At 5% level of significance the symptoms show significant difference, in group A except *Daurbalya*,

Trishnadhikya and *Sarvangajadhya*. It means, *Guduchyadi yoga* is highly effective remedy as compared to *Medohar Guggulu* in the treatment of *Medoroga*.

Statistical Analysis:

For comparing the effect of treatments on two groups, we use unpaired t test¹². As the p value is less than 0.05, at 5% level of significance, we reject the hypothesis that the two groups are equally effective. Thus, group A showed more decrease in weight than that in group B.

Quantitative variables were expressed as mean \pm sd and qualitative variables were expressed in frequency and percentage. Between groups, differences of the quantitative variables were evaluated by t-test and that of the qualitative variables were analysed by chi-squared test. Data Was entered in Microsoft excel and the statistical analysis was performed using SPSS. A p-value of < 0.05 was considered statistically significant.

DISCUSSION

According to Ayurveda, health is the *Samavastha* (balanced state) of the *Doshas*, *Dhatus*, *Malas* (faecal matters), *Agni* and the happy state of *Atma*, *Indriya* and *manas*. *Vishamavastha* (irregular/ disorder/ unbalanced) of these body elements cause disease. When quantitative, qualitative and functional norms of *doshas*, *dhatus* and *malas* in the body are decrease or increase produce a disease.

Medoroga is defined as the condition in the body in which there is excessive increase in fat and muscle tissue resulting pendulous buttock, abdomen and breast and reduction in the body strength as compared with the body growth. The vitality of such body is much less as compared to its body size. It is undesirable constitution because it comes under one of the eight *Ninditapurusha*. *Medoroga* is one of the common problems of *MedovahaSrotas*. It is *Amashaya Samutthavyadhi* caused due to disturbance of *Agni*, excessive diet and behavioural pattern along with high consumption of junk and oily food. Its pathogenesis depends on factors like *Agnimandya*, *Ama* and *Medovahasrotodushti* along with vitiation of

kapha and *vata* leading to the qualitative and quantitative changes of *kledakakapha*. It is chronic disease that affect many people and contributes to substantial morbidity and mortality. Although there is no magic bullet treatment of obesity but rewarding in terms of reducing complications. *Charakacharya* said, "*Karshyam hi varamsthoulyat*". (i.e. Slim persons are better to treat than overweight)

Ayurveda medicine is very effective in this disease because it has the potential to not only suppress the lipid production to optimal level but also offers the advantage of *Koshthashuddhi* (elimination) so that newly formed lipid would be normal in both quality and quantity. Nowadays, *Medoroga* is very common problem in our society. It is observed that *ayurveda* medicine has significant effect on *medoroga*. It is related to *Kayachikitsa* discipline. So, *Medoroga* disease is chosen for present clinical study. In the present study *Guduchyadi Yoga* and *Medohar Guggulu* is taken for the clinical trial.

I. *Guduchyadi Yoga*-This yoga described by *Yoga Ratnakar* in *Medorogachikitsa*. It contains *Guduchi*, *Nagarmotha*, *Triphalachoornam* as main ingredients and *Takrarishtam*, *Madhu* as *anupana*. *Choornam* was prepared as per SOP. Systemic actions of *Guduchyadi yoga* – *Deepana*, *Pachana*, *Trishnanigrahana*, *Mutral*, *Kaphaghna*, *jwaraghna*, *Krimighna*, *lekhana*. It's *Doshaghna*- *Kaphapittaghna*.

II. *Medohar Guggulu*- This drug contains five ingredients i.e. *Shunthi*, *Chitrak*, *Marich*, *Pipal*, *Nagarmotha*. Systemic action of This *Yoga-Deepaniya*, *Triptighna*, *Lekhaniya*. Its *doshaghna* is *Kaphapittaghna*.

The combination *Guduchyadi yoga* showed highly significant results on Subjective parameters like *Medaswita*, *Nirutsaha*, *Daurgandhya*, *Kshudhadhikya*, *Trishnadhikya*, *Kshudraswasa*, *Atinidra*, *Sandhivedana*, which are due to excess of *Meda* & *Kapha*. The combination acts by its properties like *Lekhana*, *Ushna*, *Tikshna* (Pungent), *Medohar*, *Kaphahar* etc. and gives relief in the symptoms. The result is highly significant on objective parameters i.e. Weight & BMI also. In *Medoroga* pathogenesis

Srotorodha by increased *Meda* & *Kapha* causes *Tikshnagni* & *vataprakopa*. In this *Guduchyadi yoga* by its *ushna*, *tikshna*, *amapachana gunas* reduces *srotorodha*, which ultimately helps equilibrium in *agni* and also pacifies *Vata*. By this way, it is helpful in disintegrating the *Samprapti* of *Medoroga*.

CONCLUSION

Overall effect of the *Guduchyadiyoga* with proper diet and regimen was more significant and better than the effect of the *MedoharGuggulu* after treatment and even follow up. In group A patients reported much better mental and physical fitness after the treatment. It can be concluded that the drug is most effective with respect to subjective symptoms like *Nirutsaha* (83.33%), *Daurbalya* (76.19%), *Daurgandhya* (75%), *Kshudhadhikya* (82.6%), *Kshudrashwasa* (73.68%), *Sarvangajadhya* (82.35%), *Atinidra* (86.36%), *Trishadhikya* (77.77%), *Sandhivedana* (80%), in Group A. Result obtained after the study were highly encouraging and free from adverse effects. Inference can be drawn that it is mostly effective on normalising Weight and BMI. A positive direction is advised in order to establish ancient concept of *Ayurveda* on the basis of modern parameters.

Future Scope: Nowadays, *Medoroga* is the fifth leading risk of global deaths. Also, the diseases like Diabetes Mellitus, Ischemic heart disease, certain cancers like CA Pancreas, Colon, CA Breast etc. Are attributed to overweight and obesity. So, in this present situation our *Ayurveda* medicines may prove to be better option to prevent from such complications also from the adverse effects of modern medicines.

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Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: Anita Renni: A Comparative Study Of Guduchyadi Yoga And Medohar Guggulu In The Management Of Medoroga. *International Ayurvedic Medical Journal* {online} 2020 {cited November, 2020} Available from:

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