

A BRIEF REVIEW ON CURRENT SCENARIO OF ANTI-OBESITY AYURVEDIC TREATMENT MODALITIES

¹*Dr. Bhairavi Nimbarte (M.D. Kayachikitsa), ²Dr. Pratibha Kokate, (M.D. Bhaishajya Kalpana) and ³Dr. Aparna Gade (M.D. Dravyaguna)

¹Associate Professor (Dept. of Kayachikitsa), M.S. Ayurvedic Medical College Kudwa
Gondia.

²Associate Professor (Dept. of Rasashastra and B.K.), M.S. Ayurvedic Medical College
Kudwa, Gondia.

³Associate Professor (Dept. of Dravyaguna), M.S. Ayurvedic Medical College Kudwa,
Gondia.

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*Corresponding Author

Dr. Bhairavi Nimbarte

Associate Professor (Dept. of
Kayachikitsa), M.S.
Ayurvedic Medical College
Kudwa Gondia.

ABSTRACT

Ayurveda is a holistic science of healing which comprises of two words, 'Ayu' and 'Veda'. *Ayu* means life and *Veda* means knowledge. Primary aim of this science is to maintain the health of a healthy person and to cure those suffering from diseases. Since last few decades due to drastic change in lifestyle, dietary habits and working pattern overall human race is facing increased burden of several diseases which are difficult to treat. Late night sleeping habits, increased fast food consumption, overeating and increased sugar intake are major changes observed among the population in present era. Lifestyle disorder is a broad term used for all diseases which arises

because of unhealthy lifestyle. Obesity is the most common lifestyle disorder affecting most of the population worldwide. Recently various researches which are carried out at different institutions of India has revealed that variety of *Ayurvedic* drugs and therapies along with dietary restrictions are successful in controlling obesity, improving lifestyle of patients and thereby preventing further complications. The present review article is aimed at gathering data on promising *Ayurvedic* remedies that have been evaluated for their efficacy as an anti-obesity remedy at various national and international institutions. This review article gives an idea about the efficiency of various anti-obesity *Ayurvedic* treatment modalities in present era.

KEYWORDS: *Sthoulya*, Obesity, Herbal drugs, lifestyle disorder.

INTRODUCTION

The principal focus of Ayurveda is on maintaining good health and adopting a healthy way of life. Positive health implies the concept of “perfect functioning” of the body and mind. Since last few decades due to drastic change in lifestyle, dietary habits and working pattern overall human race is facing increased burden of several diseases which are difficult to treat. Obesity is one of them; which if left untreated may produce life threatening complications in later life. Obese individuals vary not only in the amount of excess fat that they store, but also in the regional distribution of the fat within the body. The distribution of fat in abdomen (android obesity) increases the risk of other diseases. Whereas peripherally distributed around the body called gynoid obesity is less serious.^[1]

AIMS AND OBJECTIVES

In present era the number of patients suffering from obesity is rising sharply due to drastic change in lifestyle and dietary habits. Stat now there is no specific and safe cure for obesity in modern medicine. Human race at present is looking towards *Ayurveda* in search of an ideal and safe treatment for obesity. This review emphasizes on anti-obesity actions of herbal medicines along with lifestyle modifications. The principal aim of this article is to discuss therapeutic values of some herbal preparations observed in experimental studies and recent approaches to validate their anti-obesity efficacies.

MATERIAL AND METHODS

This article is based on review of current researches regarding anti-obesity value of *Ayurvedic* drugs. Materials related to obesity, *Sthoulya*, anti-obesity *Ayurvedic* drugs and other relevant topics have been collected. We also have referred to the modern medicine and explored various websites to collect information on the relevant topic. Recent researches available in various popular journals have also been reviewed while writing this article.

Central idea

There is lot of debate over the matter whether one should check the efficacy of age-old *Ayurvedic* medicines on contemporary parameters or not? A group of *Vaidyas* feel that, *Ayurveda* is an ancient healing art and has survived for thousands of years and hence there is no need for its clinical authentication. Other group of stalwarts from the field of *Ayurveda* opines that if we want our system to reach the International platform, then development of

this ancient science along with the firmness of clinical research is very essential. If we can demonstrate the value of our science and art of healing with proper evidence based documentation then *Ayurveda* will become globally acceptable as a contemporary science of medicine.

Literature Review

Obesity- WHO's definition of obesity

Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health. A crude population measure of obesity is the body mass index (BMI), a person's weight (in kilograms) divided by the square of his or her height (in metres). A person with a BMI of 30 or more is generally considered obese. A person with a BMI equal to or more than 25 is considered overweight.^[2] In *Ayurveda*, obesity is described as an illness in which buttocks; abdomen and breasts become sagging due to excessive accumulation of fat and these body parts tend to move while walking.^[3]

Need of hour

Obesity is a chronic medical disease that can lead to diabetes, high blood pressure, and associated cardiovascular disease such as heart disease, gallstones, and other chronic illnesses such as cancer. Unwanted weight gain leading to obesity has become a main driver of the universal rise in non-communicable diseases and is itself now considered a non-communicable disease. Because of the psychological and social stigma that accompany being overweight and obese, those affected by these conditions are also vulnerable to discrimination in their personal and work lives, low self-esteem and depression. These medical and psychological consequences of obesity contribute to a major share of current health-care expenditures and require surplus expenses through loss of worker productivity, increased disability, and premature loss of life.^[4]

Obesity is difficult to treat and also has a high relapse rate. Most people who lose weight regain the weight within five years. So as to avoid relapse; management of obesity has to be a lifelong commitment with proper dietary habits, increased physical activity, and regular exercise.^[5]

Obesity in Ayurveda

In Ayurveda obesity is regarded as *Medoroga (Sthoulya)* i.e., a disorder of *Meda Dhatu*. *Sthoulya* is considered as a *Santarpan Janya Vikara* (disorder of over nourishment). *Sthoulya* in detail was firstly described by *Aacharya Charaka*.^[6]

He described *Atisthula* as one among the *Ashta-Nindita Purusha*. He has further described its causes mainly to be exogenous and hereditary type (*Bijadoshaj*), its pathogenesis, prognosis and management. Exogenous causes are *Meda* (fat) increasing diet and sedentary daily routines. *Dosha*, *Dhatu*, *Mala* and *Strotasa* come under endogenous factors. In the pathogenesis of *Sthoulya*, all three *Doshas* are vitiated. Especially *Kledaka Kapha*, *Pachaka Pitta*, *Samana* and *Vyana Vayu* are main *Doshaj* factors responsible for the causation of *Sthoulya*.

Aam that is *Apakva-Annarasa* while traveling through the body gets clogged in the *Medovaha Strotas* owing to the *Khavaigunya* and combines with *Kapha* and *Meda* thereby decreasing the *Medo Dhatwagni*. This in turn gives rise to growth of *Vikrita Meda*. Vitiating *Vyana Vayu* pushes this enlarged *Meda Dhatu* to its sites viz. abdomen, hip region, breast neck etc., resulting in *Sthoulya*.^[7]

Aetiology of *Sthoulya* (obesity) in Ayurveda

An elaborate description has been given relating to the causes of *Sthoulya* (obesity). Those are *Achintanam* (not thinking much), *Divaswapna* (daytime sleep), *Harshanityam* (All time in happy mood), *Sleshmaj Aahar-Vihar Sevana* (diet and lifestyle which causes an increase in fatty tissues), *Atisampurana* (excess food intake), *Aavyavaya* (being sexually inactive), *Avyayama* (lack of exercise) and *Beejaswabhaba* (hereditary).^[8]

Basically it is caused due to *Medodhatwagni Mandya* i.e., improper fat metabolism which can be controlled by *Apatarpana Chikitsa* that is management inducing catabolism.^[9]

Diet in *Sthoulya* (Obesity)

According to *Aacharya Charaka* the principle of treatment for *Sthoulya* is heavy and non-nourishing diet. The diet and drinks should alleviate *Vata* and *Kapha Dosha* and reduce *Meda Dhatu*. Heavy diet minimizes the increased *Agni* and non-nourishing nature would help to reduce fat.^[10]

Current researches in *Ayurveda* and their anti-obesity efficacy

1. *Haridradi* tablet and *Navaka Guggulu*

A study was undertaken by Arun K et al; at SDM College of *Ayurveda* and Hospital, Hassan, Karnataka, India, entitled, 'Randomized controlled clinical trial to assess the effectiveness of *Haridradi* tablet and *Navaka Guggulu* tablet in the management of obesity'. The study was a comparative study with pre-test and post-test design. A total of 30 patients were selected and randomly divided into two groups – Group A (*Haridradi* tablet group) and Group B (*Navaka Guggulu* tablet group). The patients of both groups were given 1 gram tablet twice a day with lukewarm water for a period of one month. All the patients were provided with standard diet chart and advised similar dynamic exercises.

In this study, researchers found that there is a significant reduction in the final values of evaluating parameters when compared with the initial values. The mean body weight in *Haridradi* tablet group was reduced from 85.8kg to 83.23kg with 2.6% of mean improvement. The mean weight of *Navaka Guggulu* tablet group was reduced from 90.14kg to 88.65 kg with 1.49% of mean improvement. Both the groups show significance at the level of $P < 0.001$. The mean BMI in *Haridradi* tablet group was reduced from 32.93kg/m² to 32.04 kg/m² with 1.81% of mean improvement. The mean score of *Navaka Guggulu* tablet group was reduced from 32.62 kg/m² to 32.05 kgm² with 1.17% of mean improvement. Both the groups show significance at the level of $P < 0.001$.

From above study they concluded that both drugs are potent and shows anti-obesity property. There was not much difference in the results between the two groups. Both *Haridradi* tablet and *Navaka Guggulu* tablet can be adopted as treatment modalities for the management of Obesity.^[11]

2. *Sushrutokta* Herbo-mineral compound

Recently one research is conducted by Chandan Singh and colleagues at Department of *Dravyaguna*, Dr. S. R. Rajas than *Ayurveda* University Jodhpur, Rajasthan, India. By using the reference of *Sushruta Samhita Sutrasthana* chapter 15 and verse 32 they prepared a *Vati* containing following ingredients. *Triphala* (*Terminalia chebula*, *Terminalia bellerica*, *Embelica officinalis*), *Guggulu* (*Commiphora wightii*), *Rasanjan* (*Berberis aristata*), *Loha-bhasma*, *Shilajit* (*Ashphaltum punjabinum*), *Madhu* (honey) and *Gomutra* (cow urine). Patients whose B.M.I. >25 but <45 were considered for the present study. In total 60 patients were treated with study drug and completed the full course of three month regimen.

Statistically highly significant improvement was noticed in subjective parameters like excessive sleep (62.27%), feeling heaviness in body (61.25%), fatigue (60.80%) and excessive hunger (58.06%). Reduction in weight and BMI is statistically highly significant ($P < 0.001$). As the effect of drug 53.33% of patients were markedly improved and 46.67% of moderately improved.^[12]

3. *Vachaharidradhi Gana Udvartana*

One recent study was performed at department of *Panchakarma*, Ramakrishna *Ayurveda* Medical college, Bengaluru by Dr. Renuka Devi et al; entitled, 'Clinical study to evaluate the efficacy Of *Vachaharidradhi Gana* as *Udvartana* in *Sthoulya* WSR to obesity'. The term *Udvartana* consists of two words *Urdhwa* and *Vartana*. *Urdhwa* means upward *Vartana* means to move. *Udvartana* means to move something in upward direction. *Udvartana* is a special type of *Abhyanga* in which herbal powders are used for massaging.^[13]

While conducting this study on 30 patient researchers have considered body girth measurement and BMI as parameters for assessment of results before therapy and after therapy. They found that findings of *Vachaharidradhi Gana Udvartana* are hopeful and statistically significant. In case of body girth measurement, after treatment one patient (3.33%) showed minimum change. Three patients (10%) are presented with mild result and 9 patients (30%) as moderate result. 10 patients i.e., 33.3% obtained good result and 7 patients (23.4%) were of excellent result. The 't' and 'p' value for body girth measurement after treatment in all the parameters is significant. Another parameter i.e., BMI also showed statistically significant results as the 't' value of after follow up is 1.699 and the 'p' value is 0.0000001.^[14]

4. *Bilvapatra Swaras*

A study was undertaken by Kuber Sankh et al; at JSSAMC and Hospital, Mysore, Karnataka, India for evaluating, 'Efficacy of *Bilvapatra Swarasa* in the management of *Sthoulya*: A clinical study'. In this research they selected 60 patients and were randomly allocated into two groups of 30 each. These groups are named as Test group (TG), Control group (CG). Further they had administered 30 ml *Bilvapatra Swaras* along with 12 ml of *Madhu* to the test group, early in the morning empty stomach for 12 weeks. On the other hand they administered 12 ml *Madhu* (Honey) with 48 ml of lukewarm water on the same time for same duration i.e. 12 weeks to the control group. They found that there is a significant reduction in

the final values when compared with the initial values of various parameters viz., body weight, BMI, body circumference measurement and skin fold thickness.

Effect on body parameters – *Bilvapatra Swarasa* reduced body weight in 2.57% of the subjects and reduction in BMI 2.65%. Both results were statistically highly significant ($P < 0.001$). In control group reduction in body weight is seen in 1.52% and reduction in BMI 1.52%, these changes were found to be statistically significant ($P < .05$).

Effect of the body circumference- In test group there was reduction in circumference of chest 2.49%, abdomen 5.23% and hip 4.04%. The results were found to be statistically highly significant ($P < 0.001$). In control group there was reduction in the circumference of chest 2.52% was found to be statistically highly significant ($P < .001$). There was also reduction of the circumferences of the abdomen 3.67% and hip 2.69%, which were found to be statistically significant ($P < .05$).

Effect on skin folds thickness- In test group there was reduction in triceps skin fold thickness of 18.8%. The result was found to be statistically highly significant ($P < .001$). In control group there was reduction of triceps skin fold thickness of 9.43%. This result was found to be statistically significant ($P < .05$).

Overall effect of the therapy- In test group 28 patients completed the full course of treatment, 12 patients i.e., 42.86% showed marked improvement, 7 patients (25%) showed moderate improvement, 4 patients (14.28%) showed mild improvement and 5 patients were remain unchanged. In control group out of 30, only 22 patients completed the full course of treatment. Among them 1 patient (4.5%) showed marked improvement, 5 patients showed moderate improvement, 6 patients showed mild improvement and 10 patients were remain unchanged.^[15]

5. Lekhana Basti

Ramachandra Nisargi et al; from JSS *Ayurvedic* Medical College, Mysore have conducted clinical study entitled, “The effect of *Lekhana Basti* in the management of *Sthoulya*”.

The study was designed to evaluate the effect of *Lekhana Basti* over *Amrutadya Guggulu* as a *Shamanoushadhi*. The controlled group received placebo for sixteen days and *Amrutadya Guggulu* along with diet and exercise for thirty two days, whereas test group received a

course of *Lekhana Basti* for sixteen days along *Amrutadya Guggulu* with diet and exercise for thirty two days. Total duration of the treatment for both groups was 48 days.

Content of *Lekhana Basti*- *Triphala Kwatha* - 300ml, *Gomutra*- 100ml, *Madhu* - 30 ml, *Yavakshara* 2gm, *Ushakadi Gana Dravya Kalka* - 5gm, *Tila Taila* and - 50ml, *Saindhava* - 12 gm.

Method of administration- The duration of *Lekhana Basti* was 16 days. In this course 10 *Anuvasana Basti* with *Murchita Tila Taila* (80ml in single dose) and six *Niruha Bastis* with *Lekhana Basti* were administered.^[16]

The mean scores levels of BMI, SFT, weight, *Vaksha Pramana*, *Sphika Pramana*, *Vama Bahu Pramana* and lipid profiles before and after the treatment of both groups were subjected for student's 't' test with paired and unpaired methods. A significant response was achieved in both groups. Higher response was seen in test group in the signs and symptoms. The difference between reduction in BMI, SFT, weight, *Vaksha Pramana*, *Udara Pramana* and lipid profile between the two groups were significant with $P > 0.05$.^[17]

CONCLUSION

The knowledge of medicine is must for successful medical practice. For overall well-being and issues related with life style disorders rational use of natural products is gaining acceptance worldwide. So as to combat various lifestyle disorders including obesity modern society is choosing natural products over the use of artificially prepared chemicals. Above mentioned studies will ultimately boost the use of traditional remedies due to the collection of scientific evidences in its favour. Proper medication as per *Ayurvedic* guidelines along with proper *Aahar*, *Vihar* and *Yoga* will definitely control obesity without any untoward effects. From various researches carried out at different institutions among different population groups, it is clear that there is a lot of potential in Indian herbal medicine to control obesity if used judiciously.

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