



EFFICACY OF BILVAPATRA SWARASA IN THE MANAGEMENT OF STHOULYA: A CLINICAL STUDY

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ABSTRACT

Sthoulya (Obesity) is a global problem and it is common among those who consume excessive medokaraahara and vihara. We find no satisfactory remedies for Sthoulya in contemporary medical science. The major health consequences associated with obesity are NIDDM, raised cholesterol, hypertension, coronary heart disease, gall bladder disease, psychological disturbances and certain types of cancer. These diseases are definitely associated with an increased risk of mortality. As it is suitable remedy for Sthoulya mentioned in Charakasamhitha and in all available in Ayurvedic literature. Thus, Bilva-patraswarasa was taken up as remedy for disease Sthoulya in department of Dravyaguna, JSSAMC and H, Mysore, India. The patients were administered Bilvapatraswarasa 30 ml with 12 ml of madhu in early morning on empty stomach daily for 12 weeks for first group. For second group the 500 mg placebo capsule with madhodaka, tid, before food was administered for 12 weeks. Both groups were advised with moderate kilocalorie diet and physical activity intervention (PAI). During the present clinical study was observed that change in weight under the test group patients is significant from 15th day itself. But it is highly significant from 30th day onwards. Even through reduction of weight is observed in control group when compared to test group it was very meager. Bilva-patraswarasa has a significant role to play in the management of Sthoulya. Regain of general improvement of health was significant, no side effects of with drawl effects were observed.

Keywords: Sthoulya, Bilva-patraswarasa, moderate kilocalorie diet, physical activity intervention (PAI).

INTRODUCTION

This is an era of modernization and fast moving life. The drastic changes have taken place in dietary habits, modes of life styles and various regimens of life. Majority of the individuals are habituated to sophisticated and comfortable life style. This results in precipitation of various metabolic diseases; these are popularly referred as life style disorders¹. Obesity is one among them. Obesity has been described by the term Sthoulya Roga in various Ayurvedic classics. According to Ayurveda, Obesity is the excess amount of body fat. In this way excess weight of muscles, bone, fat and water in the body can be labelled as Obesity, is also known as Overweight². The causes of Sthoulya Roga (obesity)³ are very clearly explained in Ayurveda. These are –

Avyayama: Not exerting physically or lack of exercises

Divaaswapna: Sleeping in daytime (the afternoon)

Shleshmalaharasevana: The diet, which cause an increase in the kaphadosha

Shleshmavardhakavihara Sevana: Life styles, which cause an increase in the kaphadosha

Atisampurana: Excessive intake of foods, which are difficult for digestion, such as consuming sweet, cold and unctuous food contents in excessive quantity, etc.

Avyavaya: Not indulging in copulation

Harshanitya: Enjoying happiness always

Achintana: Not thinking on anything or worriless, or not indulging in any mental exercises

Bijaswabhabha: Nature of the seeds i.e. spermatozoa and ovum at the time of fertilisation or due to heredity

Agni has very important role in the digestion and metabolism on the both levels i.e. jatharagni (digestive fire) and dhatwagni (fire at tissue level). In Sthoulya roga there is dhatwagnimandya and srotorodha (obstruction in the channels of adipose tissues) in rasavaha and medavahasrotasa due to excessive intake of kaphavardakaahara, which leads to formation of Amadosha. This srotorodha (obstruction in the channels) do not allow the nutritive part of the following dhatusto make other dhatu, except from the meda, thus there is an increase in the meda only except other dhatu. Ultimately this gives rise to excessive accumulation of the fat in the body and thus obesity is produced. Being obstruction in its movements due to meda, vatadosha moves specially in the koshtha (abdomen), stimulates the digestive fire dries up the food present there; so the person digests his food quickly and desires more of foods again. Because of excessive increase of meda (fat/adipose tissues) and mamsa (muscle tissues), there will be movement of the sphik (buttocks), udara (abdomen) and stana (breasts); body growth is imbalanced and there is lack of enthusiasm. Thus a person is known as atisthula (Obese or overweight). In modern obesity is a disease characterized by excessive accumulation of subcutaneous fat and other tissue as the result of disturbed metabolism. Obesity is both an individual clinical condition and is increasingly viewed as a serious public health problem. Obesity contributes too much morbidity in the population and it is known as causative or precipitating factor for various killer ailments like diabetes, hypertension, joint disorders, Breast, Prostate and Colon Cancers, Respiratory problems, Stroke, Heart diseases etc. It may occur as an independent disease (ordinary or true alimentary obesity, constitutionally hereditary obesity) or as a symptom of disease. Incidence of obesity reaches 50 % in females, 30 % in males and 10 % in children⁴. In modern the drug used in the management of

obesity amphetamine has a limited scope because of its benefit for a short term goal and being contra-indicated in coronary heart disease, hypertension etc. Due to above reasons an attempt was made to select a suitable remedy for Sthoulya mentioned in Charakasmitha. Acharyacharaka has explained about the utility of Bilva in the management of medoroga³. Thus Bilvapataswarasa was taken up as a remedy for disease sthoulya (obesity).

Aims and objectives

- To find the efficacy of the Bilva-pataswarasa in management of sthoulya.
- To compare effect of Bilva-pataswarasa and madhodaka.

MATERIALS AND METHODS

Patients fulfilling the criteria and attending the OPD and IPD of the department of dravyaguna, JSSAMC and H, Mysore, Karnataka, India were selected for the present study irrespective of age, sex, religion etc. A detailed Proforma was specially designed encompassing all the aspects of disease to collect the data.

Diagnostic criteria

Patients were diagnosed on the basis of following criteria for our study.

- The patient diagnosed as sthoulya fulfilling diagnostic criteria mentioned in Ayurvedic literature and including those of obesity as described in modern science.
- Patient with 30 kg/m² and above Body mass index were selected for study
- Skin fold thickness (SFT) over triceps muscle

Above 20 mm in men

Above 28 mm in women

Inclusion criteria

- Obesity due to excess intake of calories
- Patient's age more than 20 years and below 60 years
- Body Mass Index (BMI) above 30 kg/m²

Exclusion criteria

- Patients having the complication of obesity such as diabetes mellitus, thrombo embolism cardiovascular disorder and renal disorders.
- Obesity due to endocrine disturbance.
- Hyperlipidemia due to drug (e.g., glucocorticoids)
- Pregnant and Lactating mothers.

Investigations

Routine hematological examination was done before treatment to rule out any pathological condition.

Study design

This was controlled, open, single-center clinical study with pre-test and post-test design. The study was cleared by the Ethical Committee of the institute dated 25.04.2012 with the number bearing JSSAMC 957/ EC/ 2012- 2013. Informed consent was taken from all the patients before including them in the trial.

Drugs and Posology

60 patients were selected for present clinical study. The selected patients were randomly allocated into two groups of 30 each and were named as Test group (TG), Control group (CG) as follows:

Table 1: Drugs and Posology

	Test group	Control group
Drug	Bilvapatra + madhu	Madhudaka
Dose	Bilvapataswarasa 30 ml + madhu 12 ml	Madhu 12 ml + lukewarm water 48 ml
Duration	12 Weeks	12 Weeks
Kala	Early morning in empty stomach	Early morning in empty stomach

Pathyaapathya

All the registered patients were advised to follow specific dietary changes and exercise patterns.

Assessment of therapy

Criteria for assessment

In this study only objective criteria are considered such as Body weight, Body mass index, measurement of chest, abdomen and hip and skin fold thickness.

Body mass index (BMI)

The body mass index (BMI) or Quetelet index, a measurement that compares a person's weight and height, was also assessed.

- 18.5 to 24.9 kg/m² - Normal
- 25.0 to 29.9 kg/m² - over weight
- 30.0 to 39.9 kg/m² - Obesity
- > 40.0 kg/m² - morbid obesity

Body circumference measurement

Measurement of the girth of the following areas, where adipose tissue is generally found to be more, was taken:

Chest, abdomen and hip

Skin fold thickness

Skin fold thickness over the middle portion of triceps muscle

Statistical analysis

The data was analyzed by using student's paired t test. The obtained results were interpreted as:

Insignificant	P < .05
Significant	P < .01
Highly significant	P < .001

OBSERVATION AND RESULTS

The study was conducted on 30 patients. Among the patients, 23.33 % were in the age group of 26 – 30 years; 76.67 % were females, 56.66 % were married, 53.33 % were kaphaprakriti.

Effect on body parameter

Bilvapataswarasa reduced body weight in 2.57 % of the subjects and reduction in BMI 2.65 %, both the 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) [Figure 1].

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 ($P < .05$) [Figure 2].

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 ($P < .05$) [Figure 3].

Overall effect of the therapy

In test group 28 patients completed the full course of treatment, 12 patients (42.86 %) showed marked improvement, 7 patients (25 %) showed moderate improvement, 4 patients (14.28 %) showed mild improvement and 5 patients were unchanged. In control group out of 22 patients completed the full course of treatment. Out of which 1 patient (4.5 %) showed marked improvement, 5 patients showed moderate improvement, 6 patients showed mild improvement and 10 patients were unchanged [Figure 4].

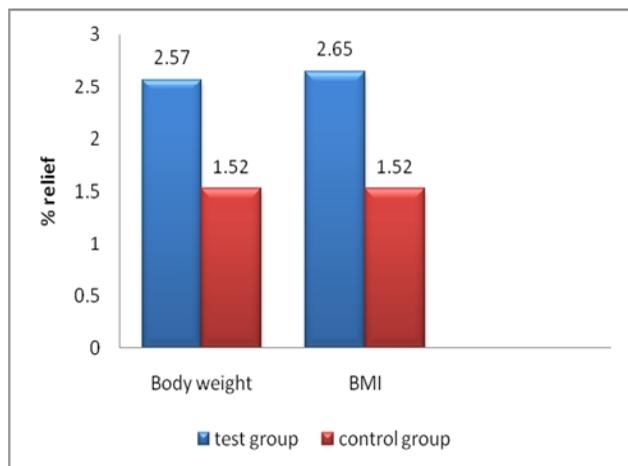


Figure 1: Effect on body parameter

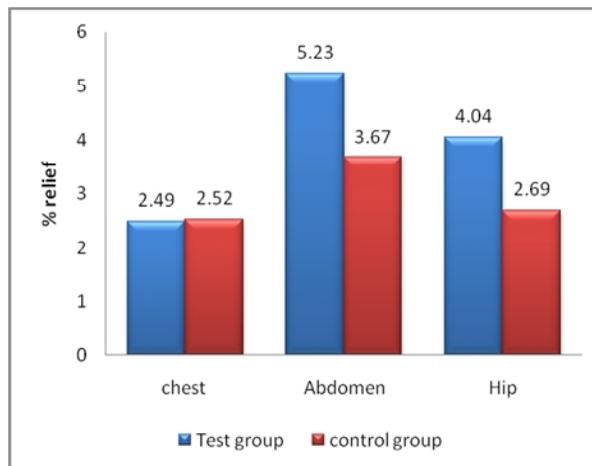


Figure 2: Effect on body circumferences

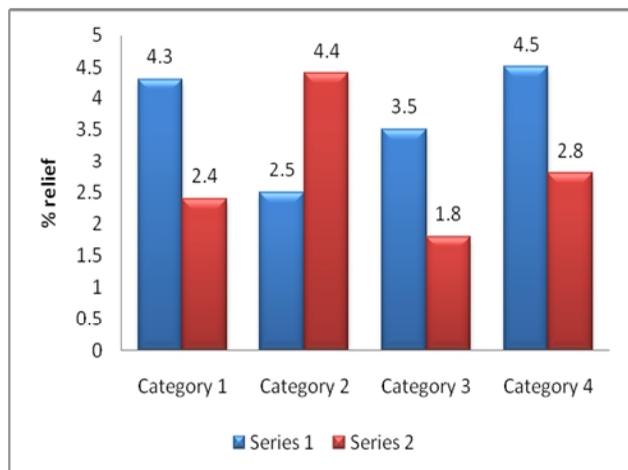


Figure 3: Effect on skin fold thickness

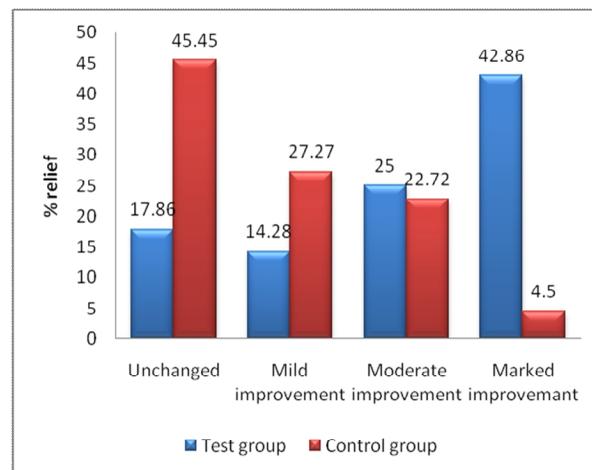


Figure 4: Overall effect of therapy

DISCUSSION

Thus bilvapatraswarasa showed better results on the objective parameter related to obesity (i.e., body weight, BMI, body fat percentage, body circumferences and skin fold thickness) which shows its depletory action. Even though reduction of weight was observed in control group, when compare to the test group it was meager.

Probable mode of action of bilvapatraswarasa

Bilva with its katu, tikta, kashaya, madhura rasa, laghu, rookshaguna, ushnaveerya and katuvipaka causes dipana, pachana and digest ama^s thus removes the margavarodha of medovahasrotas. Due to above character it alleviates kapha, vata. Thus bringing these two doshas to normalcy and medohara property clears excess of meda.

CONCLUSION

Obesity can be treated on the principle of apatarpana since this arises due to Medo Dushti. Bilvapatraswarasa showed a better result on objective parameter than control group. Dietary and lifestyle changes are supportive to therapy in sthoulya (obesity).

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