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To study the efficacy of an indigenous compound in the management of sthaulya with special reference to obesity syndrome

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ABSTRACT

The Disease Sthaulya has been mentioned since the vedic period by numerous authors. It is also one of the Kapha Nanatmaja Vyadhis and Meda Dhatu dusti along with Mandagni are stated to be the root cause. The causes, sign and symptoms along with its management are directly correlated to Obesity Syndrome in the present era. Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have a negative effect on health and it is commonly termed as BMI (Body mass Index) of 30 kg/m^2 or higher. Worldwide obesity has more than doubled since 1980. Due to its increased global prevalence a term GLOBESITY is being coined. It is one of the leading preventable causes of death worldwide. There are several lipolytic and hunger suppressive therapies available in modern medicine, still due to their allied complications & side effects on overall health, search for an alternative medicine is the need of the day which should be not only cost effective but also have fewer side effects. Keeping in view of the above points a clinical trial was conducted to evaluate the efficacy of an indigenous compound drug in the proper management of Sthaulya (Obesity Syndrome). The poly herbal compound drug was composed of Trikatu, Triphala and Guggulu in 1:2:3 proportions. Trial was conducted on 40 patients and the effect was compared before and after the treatment. Result was found to be encouraging.

Keywords: Ayurveda Sthaulya, Obesity Syndrome, Meda, Kapha, Mandagni, BMI, Calorie

INTRODUCTION

Sthaulya as described in Ayurveda is due to indulgence in Achinta (Psychological Stress Free), Santarpana (High Calorie Diet), Swapnaprasanga (Sedentary Life habits). It is said that a person due to the above mentioned causes soon becomes fat like Varah (Pig). It is also described under "Asthauninditiya Purush" context. It is stated to be a worst physical condition among all other body physique. Moreover eight main cause as

Astanidaan for sthaulya is also given in details. It is mentioned that over obese (Atisthoulya) persons are those who due to excessive increase of fat and muscles, has pendulous buttocks, abdomen and breasts due to heavy meda (fat) deposits in some parts and suffer from deficient metabolism and energy.

All the three Doshas especially Kapha is aggravated where meda is involved as dushya. Due to Medodhatwaagni mandya medodhatuvaha srotorodha occur. Vayu in kostha gets obstructed and increases the agni and food is digested quickly and patients feels hunger frequently. This aggravated vayu and agni causes destruction of the sthula sharir in the same way as davanal (wild fire) destructs the forests. For its management "Guru Apatarpan" is advised along with other samsodhana therapies [1].

Obesity may be defined as an abnormal growth of the adipose tissue due to an enlargement of fat cell size (Hypertrophic) or an increase in fat cell number (Hyperplastic) or a combination of both. It is commonly measured in terms of BMI. According to WHO BMI (weight in Kilograms divided by height squared) of more than 30 kg/m^2 is termed as obesity. Prevalence of Obesity is increasing rapidly in developed and developing countries. Authorities view it as one of the most serious public health problems of 21^{st} century. India ranks among the top 10 obese nation of the world. Since the cause of the disease is lack of physical activity (Sedentary life habits) and high caloric food intake, its main line of treatment is physical exercise and diet regulation. But besides the two there are several other causes and co-morbidities of obesity for which need of medicine is highly desirable. On an average, obesity reduces life expectancy by six to seven years, it increases the risk of many physical and mental conditions. Co-morbidities most commonly seen in obesity syndrome, is a combination of medical disorders which includes diabetes mellitus type-2, high blood pressure, high cholesterol and high triglyceride levels. Complications are either caused by obesity or indirectly related through mechanisms sharing a common case such as improper diet and sedentary lifestyles [2-3].

It is noted that even slightest reduction in weight of the obese person helps a lot in reducing the risk consequences. In this context several medications and surgical option are available in modern medicine but due to its allied complications search for an alternative medicine is the need of the day.

In the above context the following clinical trial was carried out to evaluate the efficacy of an indigenous compound drug preparation in the management of Sthaulya (Obesity Syndrome) with the following aims and obejectives [4-7].

AIMS & OBJECTIVES

1. To evaluate the efficacy of the indigenous compound drug preparation
2. To study the side effects if any of the trial drug.

DRUG PREPARATION

In Ayurveda several anti-obesity drugs are mentioned and the references are scattered in the classics. Among them Guggulu is one of the most effective drug as obesity due to its Medoghna property i.e. lipolytic action. It is also a well known drug for correcting dyslipidemia. Triphala and Trikatu are also having kaphaghna, vatanuloman, deepan, Pachan and rechana properties which help's in weight reduction.

In order to study the efficacy of the above mentioned drugs the trial drug was composed of the following **Trikatu** – Shunthi (Zingiber officinalis Roxb.); Maricha (Piper nigrum Linn.); Pippali (Piper longum Linn.); **Triphala** – Amalaki (Embelica officinalis Gaertn.); Haritaki (Terminalia chebula Retz.); Vibheetaki (Termibalia bellirica Roxb.) and **Shodhit Guggulu** (Commiphora mukul Engl.) in 1:2:3 proportion in the form of Tablets of 500 mg each [8].

CLINICAL TRIAL

Trial methodology

An open clinical trial was conducted.

Allocation

Total of 40 patients were allocated for the clinical trial.

Selections of patients

Patients having sign and symptoms of Obesity in relation to weight, BMI and allied features like heaviness in the body, excessive sleepiness etc. were included in the study.

Inclusion criteria

Patients of age group 10 to 70 years of both the gender having signs and Symptoms of Obesity were selected for the study [9].

Exclusion criteria

Patients below 10 years and above 70 years of age, or having complications like malignancy, AIDS, Pregnancy, etc were excluded from the study.

Dose

Prepared trial drug was prescribed to the patients in a dose of 2 tablets (500 mg each) twice daily with lukewarm water after meals for trial period.

Duration of trial

Total duration of the clinical trial was 45 days. All the cases went methodical investigations before and after the treatment. They were asked for follow up at every 15 days interval of time.

Criteria for assessment of results

Data related to Demographic and clinical profile were collected and arranged in order with proper Subjective and Objective (weight, Lipid Profile) criteria.

Data analysis

The data thus obtained were organized and summarized using frequency distribution tabulation, z-test of significance was employed to the study the effectiveness of the result, after the completion of the clinical trial.

RESULTS

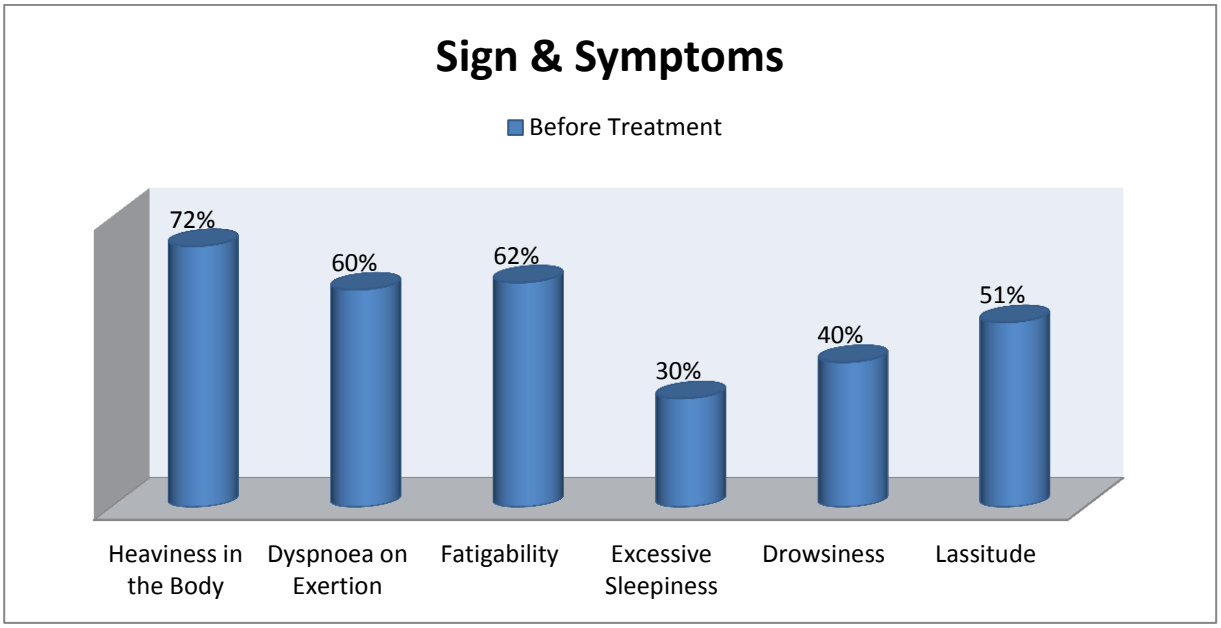

Figure 1: Severity of Sign and Symptoms Before Treatment among the 40 patients of Obesity

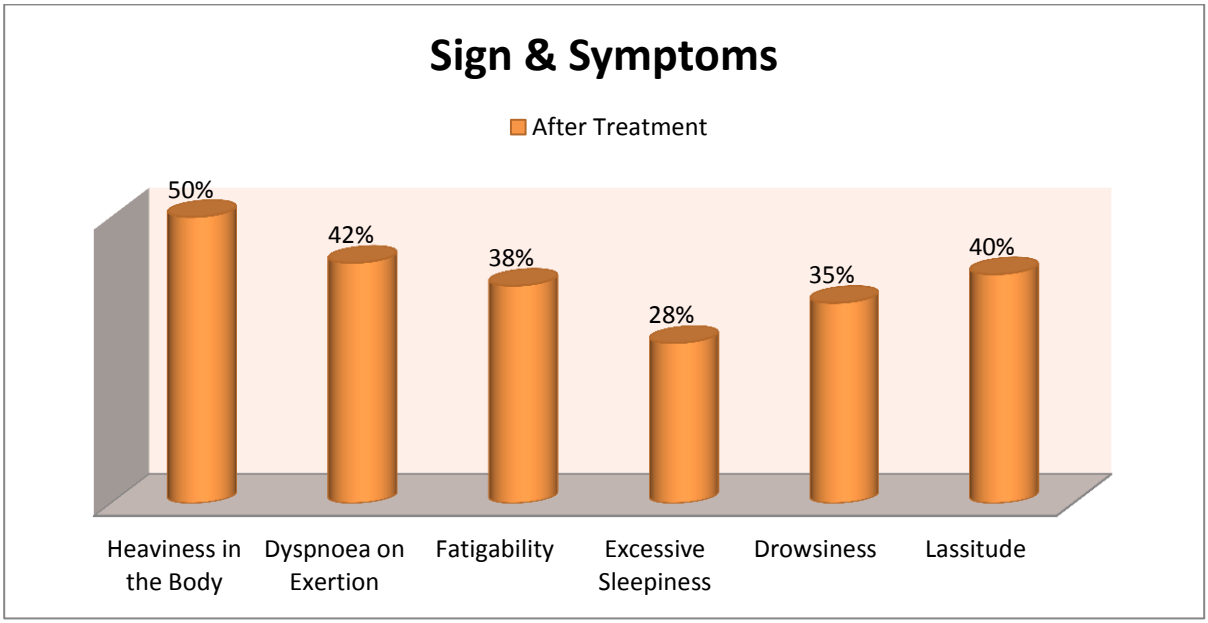

Figure 2: Relief of Sign and Symptoms After Treatment among the 40 patients of Obesity

The Figure 1 & Figure2 graph shows that patients of obesity were relieved as the sign and symptoms were reduced to an extent after the completion of the trial drug therapy. They were reduced to 50%, 42%, 38%, 28%, 35% and 40% which was 72%, 60%, 62%, 30%, 40%, 51% for Heaviness in the body (Gurugatrata), Dyspnoea on exertion (Kshudra Shwas), Fatigability (Shram), Excessive sleepiness (Nidradhikya), Drowsiness (Tandra), Lassitude (Alasya) respectively [10].

Table 1: Post Trial Comparison of Results

Criteria	M. D. (BT – AT)	S. D.	S. E.	Z-Test	p-value
Weight	2.912	± 2.362	0.821	5.706	<0.01
BMI	0.920	± 0.523	0.291	6.180	<0.01
HDL	- 5.260	± 1.696	0.321	- 9.613	<0.001
LDL	3.060	± 1.623	0.486	6.028	<0.01
LDL/HDL Ratio	1.023	± 0.986	0.126	7.532	<0.001
Triglycerides	10.290	± 10.141	1.569	8.028	<0.001
VLDL	4.683	± 1.608	0.238	9.150	<0.001
T. Cholesterol	3.125	± 1.689	1.032	4.139	<0.01
T. C./HDL Ratio	1.986	± 1.153	0.189	10.643	<0.001
RBS	7.800	± 4.932	1.998	3.685	<0.01
Systolic B. P.	3.730	± 1.689	1101	3.187	<0.01
Diastolic B. P.	3.520	± 2.013	0.892	5.136	<0.01

BMI- Body mass Index; HDL – High Density Lipoprotein; LDL – Low Density Lipoprotein; VLDL – Very Low Density Lipoprotein; RBS – Random Blood Sugar; B.P. – Blood Pressure

The Table 1 shows that there is a significant reduction in weight, BMI, LDL, T. Cholesterol, RBS, Systolic & Diastolic Blood pressure with a p-Value of <0.01 while the changes were highly significant in the levels of HDL, LDL/HDL Ratio, Triglycerides, VLDL & Total Cholesterol/ HDL Ratio with a p-value of <0.001.

CONCLUSION

The results obtained from the data analysis of the clinical trial can be concluded in the following

way – out of the 40 patients of Sthaulya (Obesity Syndrome), maximum patients belonged to 30-40 years of age group with male dominancy. Maximum numbers of patients were Muslims & Non-Vegetarians. Urban population was mostly affected. No specific finding regarding addiction was found. Maximum patients were having positive family history and the onset was found in adulthood.

After the trial patients got sufficient relief in sign and symptoms of sthaulya like feeling of heaviness, lassitude etc. and there were significant reduction in weight, BMI, LDL, T. Cholesterol, RBS, Systolic & Diastolic Blood pressure with a p-Value of <0.01 while the changes were highly significant in the levels of HDl, LDL/HDl Ratio, Triglycerides, VLDL & Total Cholesterol/ HDL Ratio with a p-value of <0.001. So the study concludes that the trial drug is effective in the management of sthaulya with no adverse or side effects.

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