



Vibration therapy a Conventional Massage for *Sthoulya* (Obesity)

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Abstract:

“*Rasanimitameva Sthoulyam Karshyam Cha*” is the statement of the Ayurveda, i.e. either the obesity or emaciation is by “*Rasa*” (nutritive material). Obesity is observed all over globe as metabolic disorder either with central or local with visceral and visible obesity classification. Indian population is with more visible obesity accumulated fats in buttocks, groin and abdomen. Many traditional and conservative management are in practice to reduce the visible and vascular fats. Vibration therapy a conventional massage with machine under dry conditions is capable of reducing the visible and visceral fats. Regularized timely meals are advised and instructed to avoid any food in between. To facilitate the bowel moments (*Koshta-Suddhi*), 5gms of *Gandharwa Haritakichurna* is advised at 5 AM. The results express statistically significant with a mean difference of 4.4. Kg weight, 2.54 BMI reductions, 12.5 cms in waist and 6.5 Cms is hip with a waist hip ratio difference of 0.074. On the other hand it shows significant reduction in mean lipid profile also. The serum cholesterol is reduced in 65.6, LDL with 18.8 and glycerides with 13.4 units. The overall feelings of the attended patients are feeling lightness in 3-6 days, reduction of 1 to 2 Kg in 8 to 10 days. The all measures are stable at the follow up undertaken after 30 days of treatment execution completion.

Keywords: *Sthoulya*, obesity, vibration, massage

Introduction:

Obesity is a vexing problem in the developed economies [1]. For developing countries like India, morbid obesity has not yet become a public health priority [2]. The reasons of pathology are still far from clear for the present day scientific community. Probably, India is, in our own eyes, still a country of poverty, but the living conditions in rural areas have improved considerably with improved income, which along with easy access to metro culture and television watching. The result is expressive in unwanted changes in lifestyle have eventually led to significant increase in body mass index (BMI) as well as abdominal obesity in both sexes. Obesity is usually reported in terms of body mass index (BMI) [3] and

abdominal obesity in terms of waist circumference (WC) [4] but the cut-off points differ by ethnicity. Recent studies using Indian specific criteria for overweight (BMI > 23), obesity (BMI ≥ 25), and abdominal obesity (WC ≥ 90 cm in men and ≥ 80 cm in women) have found the prevalence rates among Asian Indians exceeding those in the US population [5]. The age-standardized prevalence of generalized obesity in South India was 46% [6] (women: 47%; men: 43%) compared to 35% in the US. There are many different ways to classify obesity. In accordance with endocrine and pathogen of the metabolic disease, obesity can be divided into simple obesity, secondary obesity and drug-induced obesity. Obesity, a growing health problem, is the door to a lot

of illness and life threatening conditions that can make your life a living hell. There are ten reasons why obesity is bad for your health [7]. Studies suggest that higher than normal body weight greatly increases the risk of getting Type 2 diabetes, Heart attack, High blood pressure, Obstructive sleep apnea, Gout, High cholesterol, GERD ,Osteoarthritis, Cancer, Heart failure [8]. The objective of present study was to analyze effect of the vibration therapy a conventional massage with machine under dry conditions in reducing the visible and visceral fats.

It may be growing popularity with professional athletes and celebrities, but Vibration Plate therapy, is a therapeutic device claimed to help in prevention of many diseases [9]. It was also shown that resistance training seems to have a potentially positive effect on visceral fat loss [10]. The underlying mechanism by which Whole Body Vibration can help to reduce weight, total body fat or subcutaneous fat, and Visceral Adipose Tissue remains unclear. One thought is that Whole Body Vibration activates the sympathetic nervous system [11]. With this inspiration, the present pilot study of vibration therapy a conventional abdominal massage with machine is planned for the people who are with central obesity. trail any complications of obesity or with known cardiac complications are excluded from the study. with notable overweight and over shapes are included in the study.

Material and methods:

Source of data: All obese patients were randomly selected from OPD & IPD of MGACH&RC, Wardha after careful clinical examination in to the study.

To facilitate the bowel moments and to make “Koshta-Suddhi”, daily 5gms of *Gandharwa haritaki*

churna is advised at 5 AM. Vibration created by the machine is used for buttocks, groin, abdomen and thighs massage daily for 15 minutes

Methods:

Study design: Open clinical trial

Sample size & grouping: single group pilot study of 5 patients

Exclusion criteria: All the patients with any complications of obesity or with known cardiac complications are excluded from the study.

Inclusion criteria: The patients who are with notable overweight and over shapes are included in the study.

Study duration: 30 days daily for 15 minutes massage

Follow up: 15 days

Subjective parameters: *Chala stana, Chala udara, Chala sphik*

Objective parameters: Weight, BMI, Waist circumference, Hip circumference, Waist Hip ratio, Total Cholesterol, HDL, LDL, VLDL Cholesterol and serum Triglycerides.

Investigations: RBS, Hb%, CBP

Assessment of results: The assessments of the results are derived from the differences of baseline data to the final data and statistical significance by using the paired t test Graphpad prism 6 software.

Results:

The results expressed are statistically significant with a mean difference of 4.4 Kg weight, 2.54 BMI reductions. It is noted that 12.5 cms in waist and 6.5 cms is hip with a waist hip ratio difference of 0.074 at the end of the study. On the other hand it shows significant reduction in mean lipid profile also. The

Parameter	Mean Before	Mean After	Mean difference	SE	P value	Significance
Weight	73.7	69.3	4.4	1.427	< 0.1	HS
BMI	31.7	29.16	2.54	1.293	<0.12	HS
Waist	96.2	83.7	12.5	2.286	< 0.01	HS
Hip	110.2	103.7	6.5	1.304	< 0.01	HS
Waist Hip Ratio	0.872	0.798	0.074	0.036	< 0.1	NS
S. Cholesterol	249	183.4	65.6	9.288	< 0.01	HS
HDL Cholesterol	41.8	39.6	2.2	0.2950	< 1.8	NS
LDL Cholesterol	132.8	114	18.8	3.597	< 0.01	HS
VLDL Cholesterol	27	24.4	2.6	1.122	< 0.1	NS
S. Triglycerides	92.2	78.8	13.4	2.694	< 0.01	HS

Table showing the significance of the parameters [HS = Highly Significant, NS = Not significant]

serum cholesterol is reduced in 65.6, LDL with 18.8 and triglycerides with 13.4 units. The overall feelings at subjective parameters of the attended patients are; feeling lightness and less Chala stana, Chala udara, Chala sphik in 3-6 days and weight reduction of 1 to 2 Kg in 8 to 10 days. The all measurements are stable at the follow up undertaken after 15 days of treatment execution completion. The average massage time was at 14.2 minutes. No adverse effects are noted in the scheduled treatment period.

Discussion:

It is found that overweight or obese people who regularly used the equipment at gym in combination with a calorie restricted diet were more successful at long-term weight loss and shedding the fat around their abdominal organs than those who combined dieting with a more conventional fitness routine. The vibration in the body produces the heat and makes the fat to dissolve. The dissolved fat is utilized in the body at restricted diet. It makes the rhythmic movements and so the skin tonicity is improved along with muscle tone. Common fitness training was comprised of aerobic interval training that increases the 70-80% maximal heart rate, combined with general muscle strengthening exercises. These exercises even though said as common calorie burning exercises may lead the patients in to morbidity with prone patients.

Thus the present trial, local vibration therapy works as a passive muscle and skin toner and helps the patient to reduce the visible fat in less time with regulated food habits. The vibration therapy is statistically significant in all parameters except HDL & VLDL Cholesterol and Waist Hip Ratio. This suggests that the vibration therapy has no effect to reduce VLDL Cholesterol which is marker of cardiac problems and in addition it has no significant action on good fat, HDL Cholesterol. Even though it is expressive to reduce the waist and hip dimensions the ratio could not express significance because of less number of sampling.

Conclusion:

The effects of vibration in obese people, indicates it's a promising approach. It can be inferred that this therapy could be a useful addition to a weight control package. Walking, running, cycling and stepping were the most commonly used exercises.

The present vibration massage performed for 15 minutes in a day express statistical significance. A big group randomized study with volunteers and obese patients is to be made for further clarifications of any adverse effects and standardization of this therapy.

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