



Research Article

ISSN 2320-4818

JSIR 2018; 7(1): 12-14

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Received: 07-03-2018

Accepted: 11-04-2018

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Trikadu for obesity: Can you believe it?

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Abstract

A well-known and therapeutically effective sastric drug- Trikadu was subjected to further research to unravel its hidden efficacy in the management of obesity. We have employed the lipolytic assay technique to establish the above effect. Trikadu as finished product and the individual herbs in the formulation, both showed lipolytic activity. Trikadu is known to have therapeutic effect in the management of respiratory infection, induce digestion and appetite. The anti-obesity property assumes great importance where the Trikadu drug even when induce appetite and digestion control obesity. Findings are presented in the paper.

Keywords: Trikadu, Lipolytic, Candida, Sleeve Gastrectomy, Liposuction.

INTRODUCTION

The obesity or dis-proportionate increase in body mass among the present generation is posing a great medical challenge all over the world [1]. Obesity has earned the title to be called as 'disease by itself'. Sedentary lifestyle, consumption of junk foods & fast foods, stress and strain due to occupational reasons and finally the stress induced overeating are some of the well-known causes of obesity [2]. Obesity is the key preponderant factor of various disease/ disorders like diabetes mellitus, arthritis, and peripheral neuritis, cardiovascular diseases etc. Genetic reason for obesity is also well known [3].

Sleeve Gastrectomy is a surgical process followed in the case of over obese conditions wherein 80 % of stomach is removed so the food consumption would easily reach the satiation point preventing the person from further eating. However, the possible risk involved in this process cannot be neglected [4].

Liposuction is another method adopted for the removal of the localized adipose mass. However, this method has limited benefit for generalized obesity [5].

Certain lifestyle changes, holistic treatment strategies and holistic way of living (consumption of calorie-based food as per need) are imminent for managing the problem of obesity.

Several herbs are known to have effect in controlling obesity. However, the role of all such herbs is not fully studied so such possible safe remedy is not yet exploited.

Lipid accumulation/deposition is involved in obesity and as well as hypercholesteremia [6]. Therefore, managing the high cholesterol is also essential for controlling obesity.

The present study deals with the lipolytic activity of certain herbs such as *Glycyrrhiza glabra*, *Curcuma longa*, *Zingiber officinalae*, *Piper longum*, *Piper nigrum* and a well-known sastric Ayurveda product - Trikadu. We have used a species of Candida developed in our laboratory with high lipolytic activity for the present study. Findings of the study are presented in the article.

MATERIALS & METHODS

Composition of Lipolytic Media

Peptone- 1gm
Nacl- 0.5gm
Cacl2- 0.4gm
Agar- 2gm
Tween 80- 0.5ml

Media preparation

The medium was prepared by dissolving 10gms of peptone, 5gm of sodium chloride, 4 gms of calcium chloride, 20gms of agar agar and 5ml of Tween 80 in 1000ml of distilled water. The dissolved medium was autoclaved at 15 lbs pressure at 121°C for 15 minutes. The autoclaved medium was mixed well and poured onto 100mm petriplates (20ml/plate) while still molten.

Test Microorganism

We have used a species of *Candida* developed in our laboratory with high lipolytic activity for the present study.

Preparation of extracts

Freshly procured, quality approved *Glycyrrhiza glabra* was powdered and was weighed to 10g. The 10g was incorporated into 100ml of ethanol and was boiled to evaporate the entire solvent and the final extract was weighed and then used. The same procedure was adopted for all other raw materials such as *Curcuma longa*, *Zingiber officinalae*, *Piper longum*, *Piper nigrum* and finished product (Trikadu).

Evaluation of herbal ingredients and Trikadu for lipolytic activity

The prepared extract at 1mg/ml was added separately into lipolytic media. The organism was grown in the lipolytic media and incubated for 7 days and the zone of clearance was observed and measured in day

3 and day 7. The results were recorded and compared with untreated control.

RESULT

Lipolytic media were used for the present study the control strain showed the lipolytic activity with a zone of clearance measuring 0.4 cm and 1.5 cm respectively for day 3 and day 7. In *Glycyrrhiza glabra* supplemented media the organism showed greater lipolytic activity with greater zone of clearance measuring 0.6cm and 1.7cm respectively for day 3 and day 7. In *curcuma longa* supplemented media the organism showed greater lipolytic activity with greater zone of clearance measuring 1.2 cm and 2.3 cm respectively for day 3 and day 7. In *Zingiber officinalae* supplemented media the organism showed greater lipolytic activity with greater zone of clearance measuring 1.1cm and 2.5 cm respectively for day 3 and day 7. In *Piper longum* supplemented media the organism showed greater lipolytic activity with greater zone of clearance measuring 1.2 cm and 2.5 cm respectively for day 3 and day 7. In *Piper nigrum* supplemented media the organism showed greater lipolytic activity with greater zone of clearance measuring 0.9 cm and 1.9 cm respectively for day 3 and day 7.

In Trikadu supplemented media the organism showed greater lipolytic activity with greater zone of clearance measuring 1.2 cm and 2.7 cm respectively for day 3 and day 7. When extracts alone was incorporated in the media without organism no lipolytic activity was observed. [Table -1]

Table 1: Lipolytic activity

Herbs	Lipolytic activity in cm			
	Organism inoculated on to extract supplemented medium		Media with extract but no organism	
	Day 3	Day 7	Day 3	Day 7
<i>Glycyrrhiza glabra</i>	0.6	1.7	-	-
<i>Curcuma longa</i>	1.2	2.3	-	-
<i>Zingiber officinale</i>	1.1	2.5	-	-
<i>Piper longum</i>	1.2	2.5	-	-
<i>Piper nigrum</i>	0.9	1.9	-	-
Trikaduku	1.2	2.7	-	-
Control	0.4	1.5	-	-

DISCUSSION

The present study has revealed the fact that certain herbs can be used effectively for managing obesity and high lipid levels. Although the exact mechanism of herbs is not known but their proven effect undoubtedly substantiates their usefulness in managing obesity. In our present study we have used four herbs such as *Glycyrrhiza glabra*, *Curcuma longa*, *Zingiber officinalae*, *Piper longum*, *Piper nigrum* & *Piper nigrum* and Trikadu a sastric product. All these herbs exhibited lipolytic activity by increasing the lysis of lipid. It means these herbs may accelerate lipolysis in real condition.

Trikadu is known to induce appetite and accelerate digestion [7]. One may wonder how a drug that induces digestion and appetite can have anti-obesity property. The above findings explain incredible mystical science of ancient Siddha and Ayurveda system of medicine. Most of the drugs of the system have multiple therapeutic benefits and in some cases this benefit is described to be contradictory to each other. For

example, the immunomodulatory drugs described in siddha system would increase the immunity when there is immune suppression/weakening and would suppress the immunity when there is an elevation above the normal level.

We have studied the effect of herbs only in aiding/ augmenting the lipolytic ability of *C.albicans*. Hence in the absence of an agent with lipolytic ability, how the herbs will be effective remain doubtful. Whether the herbs increase the activity of the enzyme or increase the enzyme producing ability of organism or make the substrate easy to breakdown by lipolytic enzyme is not known. Although such study may throw greater understanding about the science behind our study nevertheless the activity shown by the herbs proves their usefulness.

The other possible interpretation is that the herbs can be used as adjuvants along with main medication so these herbs may fortify the therapeutic benefit of the main drug. The paramedical benefit of the above AYUSH products for managing obesity gains importance. Since

all these Ayush products are well known to humanity since time immemorial and have been in use therefore these herbal preparations can be used regularly by the obese people. Further the multi various therapeutic benefits of Trikadu such as stimulate the digestive fire, or agni, allowing for more efficient digestion in the stomach while promoting proper bile flow, healthy detoxification and fat metabolism. Trikatu is also good for respiratory system.

Findings of the study clearly prove the existence of valuable of science in ancient system of Ayurveda. The problem like obesity can easily managed with certain herbal preparations.

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