Effect of a polyherbal preparation on body mass index of obese and overweight Type 2 diabetes mellitus patients

Ramiah Sivakanesan, Kumutharanjan Thilakeswary, Arasaratnam Vasanthy

Abstract

Type 2 diabetes is the most common form of diabetes worldwide. People with diabetes have increased risk of cardiovascular diseases. Current medications for diabetes have their own drawbacks, like development of resistance and adverse effects due to lack of responsiveness. Indian Materia Medica has mentioned numerous *dravyas* (drugs) to be effective in treating *Mathumeha* (Diabetes mellitus). Recent overwhelming attention on alternative medicine has encouraged search for natural agents that can limit diabetes mellitus and its complications. Therefore, a study was designed to find the effectiveness of a polyherbal preparation (PHP) on type 2 diabetes mellitus patients.The study comprised of 193 patients aged 40-70 years seeking treatment at rural free Ayurveda hospitals in Jaffna. Height and weight was measured and body mass index (BMI) calculated. Asian cut off values for BMI was used to group the patients as overweight and obese. Seed coat of *Terminalia chebula,* fruit of *Phyllanthus emblica,* leaves of *Murrya koenigii* and leaves of *Gymnema sylvestre* in 1:1:1:0.5 ratio was used to prepare PHP. Patients consumed 2.5g of the powder twice a day with hot water before meals for 90 days. Ethical clearance for the study was obtained from Faculty of Medicine, University of Jaffna.

Among the diabetic patients the percentages of underweight, normal weight, overweight, class 1 obesity and class 2 obesity were 2.0, 20.21, 12.44, 50.26 and 15.03 respectively. The mean BMI of 25.83±3.80 kg/m^2 after 90 days of treatment with PHP was significantly lower ($p< 0.001$) than at the commencement (26.21±3.83 kg/m^2). Similarly the mean BMI of males as well as females after 90 days was significantly lower than at baseline. Between BMI at the commencement of clinical trial and decrement in BMI after 90 days, a poor but highly significant positive correlation (R^2 0.057, r value 0.239, two tailed p= 0.0008) was observed. Hence higher the BMI larger will be the decline in BMI. The mean loss in BMI in underweight, normal, overweight, class 1 obesity and class 2 obesity categories were 0.224 ± 0.156, 0.338 ± 0.090, 0.393 ± 0.230, 0.396 ± 0.117 and 0.419 ± 0.140 kg/ m^2, respectively indicating an increasing trend. The number of diabetic subjects with Class 1obesity decreased from 97 to 92 after 90 days. However number of patients with Class 2 obesity at the beginning and after treatment (29) remained same. When prevalence of overweight, Class 1 obesity and Class 2 obesity was calculated as a % of the entire diabetic population, the prevalence was higher in males than females, except in Class 2 obesity category where 9.3% were females and 7% were males. The prevalence of Class 2 obesity was more pronounced when it was calculated as a % of the respective gender (females 23.1% and males 9.6%).

The decline in BMI in diabetics upon treatment with traditional medicines has not been reported. The results of the present study revealed the beneficial effect of PHP in diabetic patients by its BMI lowering effect.

Last modified: 2021-06-27

Building: TASME Center
Room: Medicine Hall
Date: July 4, 2021 - 11:05 AM – 11:20 AM

<< Back to Proceedings