A Clinical Study on the Effect and Efficacy of Traditional Formulation Derived by Ola Leaves Manuscript In The Management of Overweight And Obesity

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Abstract- Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health. Once considered a high-income country problem, overweight and obesity are now on the rise in low and middle-income countries, particularly in urban settings. The treatment modalities have been unsuccessful even in this modern technologically-advanced era. Herbal drugs have been used in the treatment of *Staulya* since ancient times. Thus in this research, it was intended to investigate the effect of *Virechana* formulae in *ola* leave manuscript for overweight and obesity control in Sri Lankan context. Group A was treated with herbal formula for 4 weeks duration and Group B was firstly treated with *Virechana* procedure and then prescribed herbal formula for two weeks duration. When analysing the results of Group B, BMI shows a P value of 0.000 which were highly significance. The mentioned traditional herbal formula is effective for the management of overweight and obesity related parameters. But it was more effective with the combination of *Virechana* procedure than individual. The overall results of present study evidence that the short term administration of new herbal formulation has shown significant effect in decreasing the overweight and Obesity. So the new herbal formulation is an effective remedy for the management of Overweight and Obesity.

Index Terms- Overweight, Obesity, Staulya, Virechana

I. INTRODUCTION

Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health (Finucane, *et al*., 2011). A crude population measure of overweight and obesity is the body mass index (BMI), a person's weight in kilograms divided by the square of his or her height in meters. A person with a BMI of 30 or more is generally considered obese. A person with a BMI equal to or more than 25 is considered overweight (WHO, 2015).

BMI is a simple index of weight-for-height that is commonly used to classify overweight and obesity in adults. It is defined as a person's weight in kilograms divided by the square of his height in meters (kg/m^2). The World Health Organization (WHO) definition is BMI greater than or equal to 25 is overweight; a BMI greater than or equal to 30 is obesity; 30.0 - 35.0 - class I obesity; 35.0 - 40.0 - class II obesity; 40.0 - class III obesity and BMI $\geq$ 35 or 40 kg/m^2 is severe obesity (Debasis and Harry, 2008)[i]. BMI provides the most useful population level measure of overweight and obesity as it is the same for both sexes and for all ages of adults. However, it should be considered a rough guide because it may not correspond to the same degree of fatness in different individuals (Molarius, *et al*, 2005). The worldwide prevalence of overweight and obesity more than doubled between 1980 and 2014.

Once considered a high-income country problem, overweight and obesity are now on the rise in low and middle-income countries, particularly in urban settings (Am and Clin, 1998)[ii]. In developing countries with emerging economies (classified by the World Bank as lower and middle-income countries) the rate of increase of childhood overweight and obesity has been more than 30% higher than that of developed countries.

According to the proposed World Health Organization cut-off values for Asians, the percentage of Sri Lankan adults in the overweight, obese and centrally obese categories were 25.2%, 9.2% and 26.2%, respectively (WHO, 2015). Based on the cut-offs for Caucasians, these were 16.8%, 3.7% and 10.8%. Our findings were compatible with prevalence of obesity in regional countries. In addition, female sex, urban living, higher education, higher income and being in the middle age were shown to be associated with overweight and obesity in Sri Lankans (WHO, 2015).

Overweight and obesity are linked to more deaths worldwide than underweight. Those are major risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases and cancer. Once considered a problem only in high income countries, overweight and obesity are now dramatically on the rise in low- and middle-income countries, particularly in urban settings (Flegal, *et al*., 2010).

The fundamental cause of obesity and overweight is an energy imbalance between calories consumed and calories expended (National Institutes of Health, 1998). Globally, there has been, an increased intake of energy-dense foods that are high in fat,while an increase in physical inactivity due to the increasingly sedentary nature of many forms of work, changing modes of