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Evaluation of Efficacy of Panchakarma Therapy on Obesity W.R.T Lipid Parameters: A Retrospective Analysis
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Abstract

Background: Risk factors, defined as any attribute, characteristic or exposure of an individual, which increase the likelihood of developing a disease or injury. WHO identifies five leading important risk factors for non-communicable disease. In every region of the world, including India, raised blood pressure, cholesterol, and tobacco use are causing serious disease and untimely deaths. Therefore, a search is always going on to explore safe and effective medicines specifically through Ayurveda, the Traditional Indian Medicine System.

Materials and Methods: A retrospective analysis of 124 case papers diagnosed with obesity, undergone any panchakarma treatment at KLEU Shri BMK Ayurveda hospital without any complications and having complete clinical details including investigation availability of Total

Cholesterol, HDL, LDL, Tryglycerides before and after are included in the study.

Result: Percentage of difference before and after, decrease in Total cholesterol (3.15%), HDL (1.52%), whereas an increase in LDL (3.13%) and Triglyceride (0.07%) were observed, the increase in triglyceride were negligible statistically. The overall percentage of difference in total cholesterol was decrease by 4.44%, HDL by 1%, and triglyceride by 3.85% whereas 3.1% increase in LDL value.

Conclusion: The efficacy of panchakarma therapy works effectively in lowering the blood lipid parameters simultaneously decreases risk factors pertaining to living a healthy life.

Keyword- Obesity, Risk Factors, Efficacy, Panchakarma, Lipid Parameters, Retrospective analysis.

Introduction

Risk factors are defined as any attribute, characteristic or exposure of an individual, which increase the likelihood of developing a disease or injury. Risk factor data are important as predictors of future disease or injury¹. WHO identifies five important risk factors for noncommunicable disease in the top ten leading risks to health; these are raised blood pressure, raised cholesterol, tobacco use, alcohol consumption, and overweight. The disease burden caused by these leading risk factors is global. In every region of the world, including India, raised blood pressure, cholesterol, and tobacco use are causing serious disease and untimely deaths. Non communicable diseases (NCDs), especially cardiovascular disease, cancer and Type 2 diabetes mellitus, account for 53 and 44% of all deaths and disability adjusted life years (DALYs) respectively in India². More than one billion people around the world are overweight or obese with a body mass index (BMI) of 25 kg/mt2 or more. WHO Defines Obesity and Overweight as an accumulation of excess body fat, to an extent that may impair health³. The Normal amount of body fat is between 25-30% in women and 18-23% in men. Women with over 30% body fat and men with over 25% body fat are considered $OBESE^4$. The Nutrition foundation of India study has shown that 32.3% of middle class males and 50% of middle class females in Delhi were obese, approximately around 20 million Indians are obese and by 2025 the expected number is expected to be around 68 million⁵. Stoulya (obesity) is a burning problem in the world scenario and has acquired the status of an EPIDEMIC⁶. Predisposing factors of Stoulya (Obesity), which are the gifts of modern world like indiscriminate dietary habits, sedentary life style, stress etc, is the main cause making obesity a behavioral disorder. Person's life suffering from Sthaulya becomes miserably pathetic due to hampered physical activity, hampered sexual life, extreme lassitude, proneness to dangerous diseases, above all decreased span of life. The major risks related with Sthaulya is that, it favors complicated pathologies like Diabetes mellitus, Cardiac diseases, Atherosclerosis, Gall stones, Hypertension, Strokes, so rightly said "Longer is the belt shorter is the *life*"⁷. Obesity is a condition in which the body contours are distorted by a diffuse accumulation of adipose tissue. The prevalence of obesity is increasing worldwide resulting in major health problems such as T2DM, IHD, stroke, and cancer. The obese individuals need to be treated with both lifestyle interventions and/or pharmacological therapy. Unfortunately, drug treatment of obesity despite short-term benefits, is often associated with rebound weight gain after the stopping of drug use, side effects from the medication, and the potential for drug abuse. Therefore, a search is always going on to explore safe and effective medicines. Ayurveda, the Traditional Indian Medicine System has described many combinations and formulations to manage obesity⁸.

Aim and Objective

To evaluate the efficacy of Panchakarma therapy on Obesity w.r.t Lipid Parameters

Materials and Methods

A retrospective analysis of case papers of 124 subjects diagnosed with obesity, and the subjects had undergone any panchakarma treatment course at KLEU Shri BMK Ayurveda hospital without any complications and the clinical details are complete in all aspect including availability of lipid profile estimation reports before and after are included in the study. Institutional Ethical Clearance was taken for the study and after obtaining the consent the study was conducted.

Diagnostic criteria

- 1. Total Cholesterol
- 2. HDL
- 3. LDL
- 4. Triglyceride

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Inclusion criteria

- 1. Case papers complete in all aspects
- 2. Subjects of either sex aged between 18 to 70 years
- 3. Subjects fit for rukshana karma
- 4. Subjects fit for virechana karma

Exclusion criteria

1. Subjects with any major systemic disorder.

Investigation

- Total Cholesterol
- HDL
- LDL
- Triglyceride

Intervention

A. Udwartana:

a. The subjects were advised for Sarvanga udwartana for duration of 45 minutes and Baspa Sweda as per their tolerability.

b. The udwartana powder consisted of triphala powder of mesh size 120

c. The treatment was given for a period span of seven days.

B. Udwartana followed by classical virechana:

a. The subjects were given Sarvanga udwartana for duration of 30 minutes, which was minimum of 3 days and maximum of 5 days.

b. The udwartana powder consisted of triphala powder of mesh size 120.

c. Followed by minimum of three days of Snehapana with murchita tila taila and maximum of five days or till the achievement of Snehana Samyak Shuddhi lakshana.

d. During vishrama kala, the subjects were then given three days of Sarvanga abhyanaga with murchita tila taila for 20 minutes followed by Baspa Sweda as per their tolerability.

e. On the fourth day of vishrama kala, after sarvanaga abhyanaga and Baspa Sweda, the subjects were given

virechana karma with trivrut lehya with ushna jala, dose depending as per their koshtha.

f. After virechana karma, Samsarjana krama was advised as per their vegas.

Assessment criteria

The assessment of the disease was based on the following objective parameters:

Objective parameter

- Total Cholesterol
- HDL
- LDL
- Triglyceride

Observation and Result

On the basis of treatment given, the study population of 124 subjects was divided in to two. One population was given only udwartana while another population was given both udwartana followed by classical virechana with trivrut lehya. The total numbers of subjects given only udwartana were 34.67% while subjects given both udwartana and virechana were 65.32%. In the total study population the difference in lipid parameters like total cholesterol, HDL, LDL, triglycerides were observed. It was observed that the decreases in % of difference in total cholesterol were 3.15%, and in HDL were 1.52%, whereas an increase in the value of LDL (3.13%) and Triglyceride (0.07%) were observed, the increase in triglyceride were negligible statistically. It was observed in the study subjects those were given the treatment of only udwartana for a period of 7 days and for a period of 30 minutes in respect to lipid profile that the total cholesterol is decreased by 1.14% and HDL is decreased by 2.29%, whereas there was an increase in LDL (3.23%) and triglyceride (6.8%). The blood samples for the observation of lipid profile were taken on the 1st day before the commencement of the treatment and on the last day, after the completion of the treatment.

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The subjects who had undergone both the treatment of udwartana and classical virechana were observed for lipid profile and blood sample was collected before the commencement of treatment and after the Samsarjana krama. The period of udwartana was of 30 minutes duration which was of minimum of 3 days and maximum of 5 days, followed by minimum of 3 days of Snehapana with murchita tila taila, 3 days of udwartana, Baspa Sweda and the virechana karma with trivrut lehya was given. The lipid parameters were based on the total cholesterol, HDL, LDL, and Triglycerides.

The % of difference values observed before and after the treatment in total cholesterol were decrease by 4.44%, in HDL 1% decrease were observed, triglyceride were decreased by 3.85% whereas 3.1% of increase were observed in the value of LDL.

Treatment wise distribution of subjects								
Treatment	Total no. of	% of the						
	subjects	subjects						
Udwartana	43	34.67						
Virechana +	81	65.32						
Udwartana								



Lipid profile parameters					
Parameters	BT	AT	BT-AT	% OF	
				DIFFERENCE	
Total Cholesterol	148.30	143.62	4.68	3.15	
HDL	53.25	52.44	0.81	1.52	
LDL	83.23	85.84	-2.61	-3.13	
Triglycerides	114.20	114.28	-0.08	-0.07	



Lipid profile parameters with only udwartana Parameters BT AT BT-AT % of Difference 168.9 Total Cholesterol 166 97 1.93 1 1 4 HDI 60.88 59.48 14 2.29 LDL 86.5 89.30 -2.8 -3.23 Triglycerides 119.2 -8.2 -6.8 127.4



Lipid profile parameters with both virechana & udwartana					
Parameters	BT	AT	BT-AT	% of difference	
Total Cholesterol	137.3	131.2	6.1	4.44	
HDL	49.2	48.7	0.5	1	
LDL	81.4	84	-2.6	-3.1	
Triglycerides	111.5	107.2	4.3	3.85	



Discussion

It was observed that the overall decreases in the lipid parameters were found highest in case of total cholesterol. It was also observed that, on the basis of treatment, the difference in decrease in lipid parameters were more in the subjects undergoing dual therapy, it can be concluded that as said in the classics the application of the subjects to rukshana who is medula, mamsala and bhurisleshmala before undergoing the main therapy of virechana help in breaking the Samprapti (pathogenesis), which further helps to recover from the disease⁹. It has been observed, the treatment of udwartana, reduces weight, effectively, it

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may be due to the dilatation of siramukha (body pores) due to increased rise of local temperature of the part, leading to movement of the seeping of the intra dermal fat to the powder drugs used^{10,11}. It was observed that the subjects undergoing Panchakarma therapy has decreased lipid parameters before and after the treatment, it may be due to breaking of the link between the storage of excess fat in the adipose tissue, even though the subjects were made to undergone drinking of medicated ghee for a matter of three to five days¹². It specifically signifies the threshold capacity of the body to attain unctuousness as the excess of the ghee is seen to pass with stool after the body attains the Samyak snigdha lakshana. The adherence of stubborn fat to the muscles and arteries are Said to be liquefied with the attainment of Samyak snigdha lakshana and move out of the body through Shodhana procedure (bio purification)¹³. The virechana karma acts aon the basis of its drug potency by removing the avarana (obstruction) of the adhered fat from the cells as a result reducing the free radicles and lipid parameters.

Conclusion

The study concluded that the efficacy of panachakarma therapy like rukshana karma followed by swedana karma works effectively in lowering the lipid parameters of the blood, which simultaneously decreases the risk factors pertaining to living a healthy life.

Conflict of interest: None

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