THE EFFECT OF *VAMANA KARMA* (THERAPEUTIC EMESIS) WITH *DHAMARGAVA BEEJA YOGA (LUFFA CYLINDRICA)* FOLLOWED BY *LEKHANEEYA GHANA VATI* IN THE MANAGEMENT OF DYSLIPIDEMIA (*MEDOROGA*)

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ABSTRACT

Background: The world Health Organisation estimates that dyslipidemia is associated with more than half of global cases of IHD and more than 4 million deaths per year. In ayurveda Dyslipidemia can be compared to *Medoroga* which is a *Santarpanotha Vyadhi. Vamana Karma* (Therapeutic emesis) is the best line of management for *Medoroga*. **Aim:** To evaluate the effect of *Vamana Karma* with *Dhamargava Beeja Yoga (Luffa cylindrica)* in the management of *Medoroga* w.s.r to Dyslipidemia. **Methods:** *Dhamargava Beeja Yoga* and *Lekhaneeya Ghana Vati* was procured from pharmacy of National Institute Of Ayurveda (NIA), Jaipur. **Settings and Design**: 15 patients having clinical features of Dyslipidemia and who are fit for *Vamana Karma* were selected from OPD and IPD of NIA and after the procedure *Lekhaneeya Ghana Vati* was given in Follow up for 45 days. **Statistics**: Student t test (two tailed, dependent) has been used to find the significance of objective parameters and Wilcoxon test was used for the assessment of subjective parameters. Mean value, % of relief, standard deviation ,standard error and P value was calculated. **Results:** The results after complete treatment were statistically extremely significant in most of the objective and subjective parameters.

KEYWORDS: Dyslipidemia, *Medoroga*, *Santarpanotha Vyadhi, Vamana Karma, Dhamargava Churna, Lekhaneeya Ghana Vati.*

INTRODUCTION

Dyslipidemia refers to the derangements of one or many of the lipoproteins; elevations of total cholesterol, low density lipoprotein (LDL) cholesterol and/or triglycerides, or low levels

of high-density lipoprotein (HDL) cholesterol. According to a study done by ICMR-Indiadiabetes (ICMR-INDIAB) titled as "prevalence of dyslipidemia in urban and rural India'': The conclusion of the study was that, In India there has been an alarming increase in the prevalence of CVD over the past two decades so much so that accounts for 24% of all deaths among adults aged 25-69 years. Over three-fourth (79%) of the general adult population covered in this survey have abnormalities in at least one of the lipid parameters with no urban rural difference observed in any of the four regions.[1] Research over the past 4 decades has consistently shown the burden of Dyslipidemia to be very high in terms of morbidity, mortality and medical costs. The world Health Organisation estimates that dyslipidemia is associated with more than half of global cases of IHD and more than 4 million deaths per year.[2] There is no direct reference of dyslipidemia in Ayurveda, but the symptoms of dyslipidemia can be correlated to that of *Medoroga*. Ayurveda through its holistic approach particularly *Panchakarma* which aims at eliminating the basic causative factor and morbid factors involved in the disease. Among *Panchakarma, Vamanakarma* (Therapeutic emesis) is the best therapy for the elimination of *Kapha Dosha* and related morbid factors. As *Medodhatu* is one of the substance belonging to the category of *Kapha,* in this trial *Vamana Karma* is selected for the treatment of Dyslipidemia. About 355 formulations by using six main drugs with other supporting drugs are described for inducing *Vamana* (Therapeutic Emesis) but clinically mainly *Madanaphala* (*Randia dumetorum*) is used in almost all the conditions. Hence there is need to work on other drugs and formulations which are specific to the underlying disease. So *Dhamargava Beeja churna* (*Luffa cylindrica*) is selected for *Vamanakarma* which are indicated mainly in *Kapha*ja *Vikaras* and *Hridroga*.[3] After *Vamana Karma* in the follow up *Ghana Vati* Made of *Lekhaneeya Mahakashaya Dravyas*[4] was given for 45 days as *Shamana Aushadi.* It has been given to assess its *Lekhana* property in Dyslipidemia.

MATERIALS AND METHODS

Clinical study materials: 15 patients.

Source of data: Patients indicated and fit for trial were selected from outpatient and inpatient department of *Panchakarma,* National Institute of Ayurveda Hospital, Jaipur.

Diagnostic criteria

1. Abnormal levels of serum lipid profile.
2. Clinical features of Dyslipidemia and *Medoroga* like *Ashaktaha Sarva Karmasu,*

(Difficulty in doing routine work), *Kshudra Shvasa,* (Exertional dysnoea) *Svedadhikya,*(Excessive sweating), *Utsahahani,*(Lethargy), *Angagaurava.* (Heavyness in the body)

Inclusion criteria

1. Aged between 20-60 yrs.
2. Serum lipid levels more than normal ranging from: S.cholesterol (201mg/dl or more) S.Triglycerides (161mg/dl or more) Serum LDL (131mg/dl or more) Serum VLDL (41mg/dlor more)
3. Having clinical features of *Medoroga.*
4. Patients fit for *Vamana Karma.*

Exclusion criteria

1. Age below 20 years & above 60 years.
2. Associated with serious illness like Carcinoma, Cardiac Failure, Malignant Hypertension.
3. Patient not fit for *Vamana Karma.*

Laboratory investigation

Following investigation will be carried out before & after treatment:

- ECG to rule out Cardiac Pathology.
- Lipid profile.

Methodology

Procedure: *Vamana Karma* (Therapeutic emesis)

A. *Poorvakarma* (Preparatory procedure)

- *Deepana Pachana*:-*Panchakola Choorna* 3 gms twice a day was given before food till *Nirama Lakshanas*.
- *Shodhananga Snehapana* (Internal oleation):- *Moorchita tila Taila* for 3 to 7 days.
- *Sarvanga Abhayanga* (whole body oil massage):- *Dashamoola Tailam* & *Mridu Sarvanga Sveda* (*Bashpa Sveda*) (Steam bath) was carried out after getting *Samyaka Snigdha Lakshana* for 2 days.

B. *Pradhana Karma* (Main procedure)

Vamaka Yoga - *Dhamargava Churna* 6 grams with other conventional drugs like *Yastimadhu* (Glyceriza glabra), *Vacha* (Acorus calamus), *Madhu* (Honey), *Saindhava Lavana* (Rock salt).

C. Pashchat Karma (Post procedure)

According to *Shuddi*, *Samsarjana krama* was advised for 3 to 7 days.

D.Follow up (*Shamana Aushadi*)

Lekhaneeya Mahakashaya Ghana Vati was given for 45 days in the dosage of 1gm (2 pills each of 500 mg) for 3 times a day before food with warm water.

Assessment criteria

A) Objective parameters

Objective criteria were mainly assessed on the basis of biochemical investigations like lipid profile, body weight, BMI, Waist Hip Ratio, before *Vamana Karma* and after complete treatment (*Vamana Karma+Shamana Aushadi*) were assessed in terms of percentage relief and statistical evaluations.

B) Subjective parameters

Signs and symptoms of *Medoroga* were used for symptomatic evaluation for which a multidimensional scoring pattern was adopted. The patients were assessed by giving a score before and after treatment according to the severity of the symptoms.

Four parameters were assessed. They are ***Sarva Karmasu Ashaktata, Kshudra Shvasa, Svedadhikya, Dourbalyata.***

OBSERVATIONS AND RESULTS

Data related to Demographic data

Maximum 46.66% of patients were from the age group of 31-40 years, 73.26% were male, 100% were married, 73.26% were of Hindu religion, 93.24% patients were from urban population, 46.62% were having primary education, 33.3% each were doing private service and buisness, 46.62% each belonged to lower middle class and upper middle class, 66.66% were taking mixed diet, 66.6% were having *Vishamagni*, 46.62% were having *Madhyama Koshtha*, 46.62% belonged to *Kapha Pitta Prakriti*, 59.94% were having *Madhyama Satva,* 59.94% were of *Avara Samhanana* and 66.66% were of *Avara Saara*. 46.62% were taking *Madhura Rasa Pradhana Ahara*, 59.94% patients were having addiction to tea alone.

Data related to disease

79.92% Patients were not having the positive family history, 26.64% patients were having chronicity history of 1-11/2 years, maximum 26.66% were having the body weight between 81 to 100 Kg, 33.3% of patients were having BMI between 35- to 39.9, 100% were taking *Snigdha Ahara* (milk products), 46.62% patients were giving history of day sleep, 46.62% were having history of tension, 73.26% were having sedentary life style.

Data related to treatment

Out of total 15 patients, maximum in 46.62% of patients *Deepana Pachana* was given for 3 days, maximum 79.92% patients were administered *Snehapana* for 4 days. Maximum 66.6% of patients had total *Snehapana* quantity between 301 to 400 ml. *Pittanta Shuddhi* was observed in 86.67% of patients. *Lainghiki Shuddhi* like *Yathakrama Doshadarshana* was observed in 86.58% of patients. *Hridaya, Parshva, Murdha,* and *Indriya Shuddhi* was observed in 100%. Maximum 73.33% patients had attained *Madhyama Shuddhi* maximum 86.58% followed *Samsarjana Krama* for 5 days.

The data obtained in clinical study is subjected to statistical tests and analyse in three parts: 1) Objective Parameter, 2) Subjective Parameter, 3) Overall Assessment. Assessment of the overall effect of the treatment was done based on objective parameter. As Dyslipidemia is not characterized by any signs or symptoms and it can only be diagnosed by means of Lipid profile. Hence Lipid Profile was given a total score of 100 and each of the parameter of the Lipid Profile i.e.; S. cholesterol, S. triglycerides, S. HDL, S. LDL, and S. VLDL were given a score of 20. The individual scores were decided as per the lipid profile limits set by the American Journal of Lifestyle Medicine specifications.[5]

Statistical Methods

- Student t test (two tailed, dependent) has been used to find the significance of objective parameters.
- Wilcoxon test was used for the assessment of subjective parameters.

Table No. 1. Showing Statistical analysis on objective parameters: (Lipid profile, Body weight, Body Mass Index, Waist Hip Ratio)

Objective Parameters	N	MEAN		Dif	% change	SD	SE	T	P
		BT	AT						
S. Cholesterol	15	213.40	181.13	32.27	15.12	33.49	8.65	3.73	.002 VS
S. Triglycerides	15	233.13	169.27	63.87	27.39	109.38	28.24	2.26	.04 S
S.HDL	15	44.60	45.00	-0.40	-0.90	7.94	2.05	-0.20	0.84 NS
S.LDL	15	120.87	104.53	16.33	13.51	41.45	10.70	1.53	.14 NS
S.VLDL	15	45.80	33.60	12.20	26.64	22.52	5.81	2.10	.054 NS
Body Weight	15	89.87	83.53	6.33	7.05	1.80	0.46	13.63	<.0001ES
Body Mass Index	15	31.57	29.48	2.09	6.61	0.69	0.18	11.75	<.0001 ES
Waist Hip Ratio	15	0.95	0.94	0.01	1.34	0.01	0.00	8.26	<.0001

N= no. of patients, BT=before treatment, AT=after complete treatment (Vamana+ Shamana Aushadi)

The mean cholesterol was 213.40mg/dl which was reduced to 181.13(15.12%) after complete treatment (*Vamana +Shamana Aushadi*) with P=0.002 which is very significant result. Serum Triglyceride was 233.13mg/dl which was reduced to 169.27 (27.39 %) after complete treatment (*Vamana +Shamana Aushadi*) with P=0.04 which is significant result.

The mean Body Weight (BW) was 89.87kg which was reduced to 83.53 (7.05%) after complete treatment (*Vamana +Shamana Aushadi*) with P<0.0001 which is extremely significant. Body mass index and Waist hip ratio also showed extremely significant results.

Table.No.2. Showing Statistical analysis on subjective parameters: (wilcoxon test)

Subjective Parameters	N	MEAN		Dif	% of change	SD	SE	T	P
		BT	AT						
Sarvakarmasu Ashaktata	15	1.73	0.40	1.33	76.92	0.62	0.16	120	<.0001 ES
Kshudra Swasa	15	1.20	0.13	1.07	88.89	0.70	0.18	78	.0005 ES
Svedadhikya	15	2.07	0.73	1.33	64.52	0.49	0.13	120	<.0001ES
Dourbalyata	15	2.20	0.73	1.47	66.67	0.52	0.13	120	<.0001ES

All the four subjective parameters had shown extremely significant results with P<0.0001 after complete treatment. The percentage of relief in *Sarva Karmasu Ashaktata* was 76.92%, in *Kshudra Swasa* it was 88.89%, in *Svedadhikya* it was 64.52% and in *Dourbalyata* it was 66.67%.

C). Overall   assessment of treatment

Table No.3.Showing scoring of lipid parameters Before and After treatment (BT, AT)

Si No	Cho BT	TGL BT	HDL BT HDL BT	LDL BT	VLDL BT	Total BT	Cho AT	TGL AT	HDL AT	LDL AT	VLDL AT	Total AT
1	00	05	05	05	10	**25**	20	05	05	20	10	**60**
2	10	10	10	10	20	**60**	20	-05	-05	20	-10	**20**
3	00	00	10	20	05	**35**	10	10	-05	-10	20	**25**
4	20	10	10	20	20	**80**	20	20	10	20	20	**90**
5	20	20	00	10	20	**70**	20	20	10	20	20	**90**
6	00	05	15	20	10	**50**	10	10	-15	20	20	**45**
7	20	10	00	20	20	**70**	20	20	05	20	20	**85**
8	10	05	15	20	20	**70**	20	05	-05	20	10	**50**
9	00	20	15	05	20	**60**	00	20	15	05	20	**60**
10	10	10	05	20	20	**65**	10	-05	15	20	-10	**30**
11	10	05	00	20	10	**45**	10	10	05	-10	20	**35**
12	20	10	10	20	20	**80**	20	20	10	20	20	**90**
13	20	05	05	20	10	**60**	20	20	05	20	20	**85**
14	20	05	05	20	10	**60**	20	05	05	20	10	**60**
15	00	05	10	10	10	**35**	10	10	-05	20	20	**55**

Table No.4.Showing overall effect of treatment

Improvement	Number of patients	%
No Improvement	08	53.28
Mild improvement	06	39.96
Moderate improvement	01	6.66
Good Improvement	00	00
Excellent Improvement	00	00

After the complete treatment 06(39.96%) patients showed mild improvement, 01(6.66%) patients showed moderate improvement and 08 (53.28%) patients showed no improvement.

DISCUSSION

Dyslipidemia can be clinically correlated to *Medoroga. Medoroga* is characterized by dyspnoea, excessive thirst, delusion, fatigue, sexual dysfunction which are seen in patients with dyslipidemia. It is a *Santarpanotha Vyadhi* and *Vamana Karma* was the best line of management for *Medoroga. Pachana Deepana* is the first step in *Vamana Karma* that helps to achieve the *Nirama Avasta* of *Dosha* which is the essential condition for the mobilisation of *Dosha* from *Shakha* to *Koshtha.*

For the purpose of *Amapachana* and *Agnideepana*, *Panchakola Choorna* was used. As all the drugs of *Panchakola Choorna* are having *Deepana Pachana* in action,[6] in addition to the *Agnideepana* effect all these drugs also have the lipid lowering effect.[7][8][9][10][11]

Shodhananga Snehapana is the prime step in *Vamana Karma*, as it causes *Utkleshana* of *Dosha* by doing *Vriddhi* and *Vishyandana* of *Dosha* and further it helps for the easy mobilization of *Dosha* by doing *Vata Shamana, Mrudukarana* of *Deha* (*Srotas* and *Dhatu*).[12]

Snehapana was done using *Murchita tila Taila,* in addition to *Snehana* effect the ingredients of *Murchana* were also having the *Lekhana* action on *Medo Dhatu*.[13][14][15][16]

Vamana karma is one of the classical Bio-Cleansing therapy which eliminates the morbid material, like vitiated *Dosha*, metabolic waste, unwanted excessive accumulated substance from the body. It is specific for *Kapha Dosha* which belongs to the category of *Medo Dhatu* (Fats), there by having its direct effect on Fat tissue which may be one of the reason for reduction in lipid levels, further *Vamana* also corrects *Pitta Dosha* to moderate extent indirectly improves functioning of liver which plays an important role in the lipid metabolism. Hence this may be the second reason for reduction of lipid levels. *Vamana karma* being cleansing in nature may help for the mobilisation of peripheral fat, which subsequently gets eliminated through liver.

Lastly *Vamana Karma* improves digestion and metabolism there by corrects the lipid metabolism and may regulate endogenous production of lipids.

Dhamargava Kalpa has been indicated for *Hridroga*. As dyslipidemia is a direct factor for atherosclerosis leading to heart diseases, so it has been taken for *Vamana Karma*.

In support to this a study done on seed oils of *L. cylindrica* has been proved for reducing serum cholesterol levels.[17]

Shamana Aushadi: *Lekhaneeya Ghana Vati* is formulated with the *Lekhaneeya Mahakashaya Dravyas*, which are mentioned as best management for *Medoroga*. According to the modern research works all the drugs of this *Gana* are effective antidyslipidemics. Animal studies has proved that lipid levels had come down after inducing different extracts of these ten drugs.[18][19][20][21][22][23][24][25][26][27]

In the clinical study conducted in 15 patients of dyslipidemia *(Medoroga)* the results after complete treatment were statistically extremely significant in most of the objective and subjective parameters.

The mean reduction of serum cholesterol and serum triglycerides had showed statistically significant results with 15.12% and 27.39% of relief respectively.

The results were extremely significant in parameters of Body Weight, Body Mass Index and Waist Hip Ratio. In subjective parameters like *Sarva Karmasu Ashaktata, Kshudra Shvasa, Svedadhikya, Dourbalya* the results were extremely significant with 76.92%, 88.89%, 64.52% and 66.67% of relief respectively.

CONCLUSION

Vamana Karma done with *Dhamargava Kalpa* followed by *Lekhaneeya Ghana Vati* as *Shamana Aushadi* has given statistically significant results in lowering lipid levels. In different parameters of lipid profile, the mean reduction of Serum Cholesterol and serum triglycerides showed better results statistically.

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