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Clinical Evaluation of Role of *Shadangapaniya*, and *Ushnodaka* along with *Kapalbhati* in daily Regimen to Combat *Medo-Dushti* w.s.r. to Dyslipidaemia

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ABSTRACT

Dyslipidaemia is the most common disorder which is associated with cardio vascular diseases, CHD, atherosclerosis etc. WHO claims that about 2.6 million deaths are caused due to raised cholesterol level. Dyslipidaemia can be defined as disturbed lipid level in blood either more or in less amount. According to Ayurveda it cannot be correlated with a single disease or disorder but the condition associated with *Rasadhatugata Ama, Medsavritta Vata, Medo-dhatwagnimandya, Abaddha Medo Vriddhi, Medo-roga or Medo-Dushti* can be correlated accordingly. In this situation treatment which lowers the *Kapha Dosha*, digests the *Ama*, and possess the *Deepana, Pachana* properties will help in lowering the lipids in blood.

Key Words Dyslipidaemia, CHD, Atherosclerosis, *Rasadhatugata Ama, Medsavritta Vata, Medo-dhatwagnimandya, Abaddha Medo Vriddhi, Medo-roga, Medo-Dushti*

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INTRODUCTION

According to the World Health Organization (WHO), Non - communicable diseases (NCDs) affect 41 million people each year, accounting for 71% of all deaths worldwide. Every year, 15 million individuals between the ages of 30 and 69 die from NCDs, with 85% of these fatalities occurring in low- and middle-income nations[2]. Dyslipidaemia Prevalence in Urban and Rural India: According to the ICMR–INDIAB Study, the prevalence of cardiovascular disease has increased dramatically in India during the last 20 years. It is responsible for 24% of all fatalities in adults aged 25 to 69. Lifestyle changes linked with urbanisation, as well as epidemiologic and dietary shifts, are all common reasons of a rise in cardiovascular disease rates[3]. According to data from the ICMR-INDIAB study on the prevalence of dyslipidaemia in urban and rural India, 13.9 percent of 213 million people had

ORIGINAL RESEARCH ARTICLE

hypercholesterolemia, 29.5% had hypertriglyceridemia, 72.3% had low HDL, 11.8 percent had high LDL, and 79 percent had irregularities in one of the lipids parameters[4].

Dyslipidaemia is a disease of lipoprotein metabolism that can result in lipoprotein overproduction, deficiency, or both. There can be an increase in plasma cholesterol, triglycerides, or both, as well as a low amount of HDL (High Density Lipoprotein) with this condition. It is a cluster of illnesses with a variety of genetic and environmental determinants, rather than a single disease[5].

In Ayurveda, there is not any specific reference for dyslipidaemia. In Ayurvedic scriptures, there are a few allusions to dyslipidaemia that are scattered. Lipids can be associated to *Snigdha Dravyas* such as *Meda, Vasa,* and other *Snigdha Dravyas* in the body. Lipids are more similar to *Medo-Dhatu.* The *Medo Dhatu's* function is to provide *Snehan* to the body.

Dyslipidaemia is linked to *Medo-Dushti Janya Lakshana.* According to ancient Ayurvedic writings, the reason (*Nidana)* of *Medo-Dhatu Dushti* is excessive consumption of *Shleshma Vardhaka Aahara vihara* and a lack of physical and mental exercise, which results in *AgniDushti,* which leads to an abundance of *Sama-Meda* development in the body[6].

Due to extreme consumption of *Sneha Dravyas or Shlesmala Ahara, Agnimandhy* develops[7]. Due to *Agnimandhya, Rasa* being produced will also be *Sama.* This *Sama Rasa* is being circulated in whole body vitiates all three *Dosha, Sapta Dhatus* and *Tryodasha Agni.* There will also the vitiation of *Medodhatwagni* take place. *Medodhatwagnimandhya* causes formation of *Sama-Medas,* that circulates and deposits in entire body.

Vitiation & extremely accumulation of *Medo Dhatu* is the principal cause of *Medo-Dushti.* Here the *Medovruddhi* which take place is of two types, first one is *Baddha Meda Vriddhi* which can be interrelated to the extreme deposition of the fatty tissues, and the second one is *Abaddha Meda Vriddhi* in which the abundant of circulatory type of *Meda Dhatu* occurs resulting in nourishment of *Badhha Meda.* This situation can directly be simulated to the state in which serum lipid is raised as the adipose tissues are comprise triglycerides. *Acharya Charak* has also defined *Medasaavritt Vata*[8], which is mainly the *Avarana* of *Saman Vayu* with amplified level of *Meda,* in the *Samprapti* of *Medoroga* which further resulting in *Vata Prakop* in the *Koshtha* causing *Agni-Sandhukshana*[9]. Raised level of *Jatharaagni* causes increased consumption of food resulting to *Sama Meda Dhatu Vriddhi* and further in the same way that brutal cycle moves on. As guided by many *Acharyas, Medo-Dushti* can be cured by *Nidana Parivarjanam, Guru Apatarpana, Deepana, Pachana,* and *Samshodhana.* That's why selection of *Dravya* should have standards that help in the *Pachana* of *Sama Meda* without causing *Vata-prakopa* and regularizing the both *Agni: Dhatwagni* and *Jatharagni.* Though numerous studies have been done for this present situation, still there is a

ORIGINAL RESEARCH ARTICLE

necessity of appraisal of certain drugs on many systematic and standardize scientific measures which can prove to be nonviolent, effective, inexpensive and effortlessly available in the management of *Medo-Dushti*, that's why this clinical trial has been selected.

MATERIALS AND METHODS

Selection of patients-

The study was completed on minimum 45 clinically diagnosed subjects of *Medo-Dushti*. Written informed consent has been taken from each subject before the initiation of trial.

Inclusion Criteria:

Following Patients were selected for our study-

1. Adults of either sex 30-60 years of age.
2. Patients with a diagnosis of non-familial hypercholesterolemia or mixed dyslipidaemia as one of the following:

- Triglycerides between 150 mg/dl -500 mg/dl
- Cholesterol between 160 mg/dl-250 mg/dl
- LDL-C > 130 mg/dl

Exclusion Criteria: -

1. Children and adolescents with any of the following:

- Known dyslipidaemia
- Diagnosis associated with secondary dyslipidaemia
- Established family history of Familial Hypercholesterolemia
- Monogenic dyslipidaemia other than Familial Hypercholesterolemia • Multifactorial dyslipidaemia

Criteria for diagnosis: -

All the patients conforming the above said inclusion criteria were selected on the basis of their clinical symptoms and on the basis of their lipid profile test.

Laboratory investigations: -

- **Diagnosis: -** Lipoprotein profile (HDL, LDL, Triglycerides, total cholesterol)
- **Before & After Treatment: -**
  - HDL test
  - LDL test
  - Total cholesterol test
  - Triglyceride test
  - Lipoprotein analysis
  - FBS (Fasting blood sugar)
- **Anthropometric Assessment**
  - BMI (Body mass index)

Drug Preparation and Administration:

45 patients were selected randomly divided into 3 groups namely: Group A, Group B and group C examined clinically along with laboratory investigations.

Group A- 15 registered patients of dyslipidaemia were given *Shadangpaniya*[10] (when patient feel thirst/As per thirst) along with *Kapalbhati* (3 rounds of 30 repetitions, twice a day) for 45 days.

Group B- 15 registered patients of dyslipidaemia were treated with *Ushnodaka*[11], in the quantity of approximately 3 litters a day (as per thirst), along with *Kapalbhati* (3 rounds of 30 repetitions, twice a day) for 45 days.

Group C- In this group, 15 registered patients were treated with *Yogik kriya Kapalbhati*[12] for 45 days.

ORIGINAL RESEARCH ARTICLE

Study Design:

- Type of study: Interventional
- Masking: Open label masking
- Number of groups: 3
- Number of patients: 45 (15 patients in each group)
- Timing: prospective

Administration of drug:

Drug was prepared according to *Bhaishajya Ratnavali*[13] in the pharmacy of Dr Sarvepalli Radhakrishnan Rajasthan Ayurveda University.

Follow Up: - All the patients were asked to report on every 15th day for 45 days.

Assessment criteria: -

Assessment of subjective and objective parameters were done before and after the trial based on severity grading scale developed by supervisor and HOD Dr. Pramod Kumar Mishra. Table 1 is showing severity grading scale which was developed to draw the result at the end of research.

Table 1 Severity grading scale

S. No.	Sign & Symptoms	Grade	Score	Percentage
1	Absent (Nil)	-	0	Less than 25%
2	Mild	+	1	25%to50%
3	Moderate	++	2	50%to75%
4	Severe	+++	3	75%to100%

Table 2: Assessment of subjective Parameters:

To provide objective and statistically significant results, a multidimensional scoring system for *Medo-Dushti* sign and symptoms was used. Symptoms of *Medo-dushti* has been taken from *Madhavnidana* (table no. 2)[14]

Table 2 Assessment of subjective Parameters[14]

Assessment of *Pipasadhikya*	**0**	**Drinks about 8-10 glass of water daily**
	1	**Drinks about 10-15 glass of water daily**
	2	**Drinks about 15-20 glass of water daily**
	3	**Drinks about 20-25 glass of water daily**
	4	**Unable to have a sound sleep for his thirst**
Assessment for *Kshudrashwasa*	**0**	No shortness of breath
	1	Mild dyspnea after physical exertion, relieved on rest
	2	Moderate dyspnea after physical exertion
	3	Dyspnea even after daily routine
	4	Breathlessness even after changing posture
Assessment of *Swedadhikya*	**0**	Normal perspiration
	1	Mild perspiration after doing strenuous physical activity
	2	Increased perspiration after doing little exertion
	3	Profuse perspiration after doing little exertion
	4	Perspiration without exertion
Assessment of *Alasya*	**0**	Normally active
	1	Hesitate to start work but once started complete it
	2	Start work but does not complete it
	3	Does not have desire, works under compulsion
	4	Does not start work
Assessment of *Atinidra*	**0**	8-10 hours/day sleep
	1	8-10 hours/day sleep
	2	10-12 hours/day sleep
	3	12- 14 hours/day sleep
	4	>14 hours/day sleep
Assessment of *Daurbalya*	**0**	Feeling of well being
	1	Tired after doing strenuous physical activity
	2	Tired after doing moderate physical activity, but can perform daily activity
	3	Perform daily activity with difficulty

ORIGINAL RESEARCH ARTICLE

	4	Extremely tire to carry out daily routine activity
Assessment of *Angasada*	**0**	Absent
	1	Occasional *Angasada*
	2	Continuous *Angasada* but not interfere any activity
	3	Continuous *Angasada* and sometimes interfere daily activity
	4	Continuous *Angasada* which hampers daily activities and confined patient to complete rest

Gradation of Associated complaints: Table 3 is showing final assessment of results on patient statement so that results can be made.

Table 3 Final assessment of results on patient statement

No change	**Up to 25% relief**
Mild improvement	26-50% relief
Moderate improvement	51-75% relief
Marked improvement	Above 76%
Complete improvement	100% relief

❖ **Objective Parameters:** -They were assessed mainly on the basis of biochemical investigation as lipid profile and along with Anthropometric assessment before starting the treatment and after completion of treatment in terms of percentage relief and statistical evaluations.

- Anthropometric assessment: -
- ✓weight of the patient
- ✓B.M.I.
- Biochemical parameter assessment: -

 - Lipoprotein profile (HDL, LDL, Triglycerides, total cholesterol)

 HDL test

 LDL test

 Total cholesterol test

 Triglyceride test

 Lipoprotein analysis

 RBS (Random blood sugar test)

Criteria for final assessment of results:

Assessment of the clinical study has been done based on the subjective and objective parameters.

Statistical analysis:

The data was statistically analysed using the Graph Pad Instat 3 Trial software:

For subjective parameter (Nonparametric data) Wilcoxon matched pairs signed rank test was used. While for objective parameters (Parametric data) Paired "T" test was used and result calculated in each group.

For inter group comparison and calculation, Kruskal Wallis test (Non-Parametric ANOVA) and ANOVA Tukey's Multiple comparison test was used.

RESULTS

A) Intra-group study of **subjective parameters** was analysed using **Wilcoxon matched pairs signed rank test mentioned under table no. 4** which reveals that**:**

➢**Group A:**

 Extremely significant (P<0.001) result was found in the symptom of *Pipasadhikya*, *Kshudraswasa*, *Angasada* and *Swedadhikya*.

 Very significant (P<0.01) result was found in the symptoms of *Daurgandhya*, *Atinidra* and *Alasya*,

➢**Group B:**

✓ **Extremely significant (P<0.001)** Patients of group B, presented statistically **Extremely significance** results in *Kshudra Shwasa*,

ORIGINAL RESEARCH ARTICLE

Angasada and *Alasya* (P<0.001). **Very significant (P<0.01)** result was found in the symptoms *Pipasadhikya, Swdaddhikya, Atinidra* and *Daurbalya.*

➢**Group C:**

- Individuals of group-C presented statistically **Extremely significant** changes in *Kshudrashwasa* (P<0.01), while it showed only **Significant** results in *Swedadhikya*.

Table 4 Intra-group study of subjective parameters

Variable	Group	Mean		Mean Diff.	S.D. ±	S.E. ±	P Value	S
		BT	AT					
Pipasadhikya	A	2.667	0.733	1.933	1.10	0.284	0.0002	ES
	B	1.533	0.600	0.933	0.88	0.228	0.002	VS
	C	1.733	0.800	0.933	0.88	0.228	0.002	VS
Kshudrashwasa	A	2.00	0.60	1.40	1.298	0.335	0.0010	ES
	B	1.933	0.666	1.267	0.9612	0.248	0.0002	**ES**
	C	2.267	0.933	1.333	1.113	0.287	0.0005	ES
Swdadhikya	A	2.667	1.00	1.667	1.175	0.303	0.001	ES
	B	1.333	0.533	0.800	0.8619	0.222	0.0039	VS
	C	1.667	0.733	0.933	1.223	1.223	0.013	S
Alasya	A	1.467	0.666	0.80	1.014	0.2619	0.0078	VS
	B	1.733	0.866	0.866	0.7432	0.1919	0.0010	ES
	C	1.067	0.466	0.600	0.6325	0.1633	0.0039	VS
Atinidra	A	1.800	0.600	1.200	1.320	0.3409	0.0020	VS
	B	1.33	0.53	0.80	0.8619	0.2225	0.0020	VS
	C	1.067	0.466	0.60	0.7368	0.1902	0.0078	VS
Daurbalya	A	1.60	0.60	1.0	1.069	0.2760	0.0039	VS
	B	1.467	0.667	0.800	0.7746	0.2000	0.0020	VS
	C	1.20	0.666	0.533	0.5164	0.1333	0.0039	VS
Angasada	A	1.667	0.533	1.133	0.990	0.2557	0.0010	ES
	B	2.067	0.933	1.133	1.06	0.273	0.0010	ES
	C	1.60	0.80	0.80	0.200	0.200	0.0020	VS

(**Abbreviation**-B.T. - Before treatment, A.T.- After treatment, Diff. - Difference, S.D.- Standard Deviation, S.E.- Standard Error, ES: Extremely Significant, VS- Very Significant, S: Significant, NS: Not Significant)

B) Intra-group Study of **Objective Parameters** was analysed using **Paired 't' test mentioned under table no. 5** which reveals that**:**

➢**Group A:**

- **Extremely significant (P<0.001)** result was found in the value of haemoglobin gm% and serum creatinine. The individuals of group-A have shown statistically **Extreme Significant Results** in BMI (P<0.001), Serum cholesterol (P<0.001), Serum triglycerides (P<0.001) and LDL (P<0.001).
- **Very Significant** change was seen in VLDL and HDL.
- **No significant** results have been seen in FBS (Fasting blood sugar).

➢**Group B:**

- Individuals of group-B have presented statistically **Extreme Significant Results** in Body Mass Index (P<0.001), Serum cholesterol (P<0.001), Serum triglyceride (P<0.001), LDL (P<0.001) and VLDL(P<0.001)
- **Significant** changes were found in HDL.
- **No significant** results were seen in Fasting blood sugar (FBS).

➢**Group C**

ORIGINAL RESEARCH ARTICLE

- Individuals of group C presented statistically **Extremely Significant Result** changes in BMI (P<0.001), Serum cholesterol (P<0.001), Serum triglyceride (P<0.001), LDL (P<0.001) and VLDL(P<0.001).
- **Significant** changes were seen in HDL.
- **No significant** result was found in FBS (Fasting blood sugar).

Table 5 Intra-group Study of Objective Parameters

Variable	Group	Mean		Mean Diff.	S.D.	S.E.	P Value	T Value	S
		BT	AT						
BMI	**A**	27.29	26.94	1.027	0.5612	0.144	<0.0001	7.085	ES
	B	28.32	27.233	1.087	0.5330	0.137	<0.0001	7.896	ES
	C	28.893	28.013	0.8800	0.5088	0.131	<0.0001	6.699	ES
Cholesterol	**A**	261.60	225.80	35.80	30.869	7.97	0.0003	4.492	ES
	B	261.61	230.93	30.687	20.220	5.22	<0.0001	5.878	ES
	C	264.13	240.93	23.193	13.306	3.43	<0.0001	6.751	ES
G	**A**	237.53	192.0	45.53	28.309	7.30	<0.0001	6.229	ES
	B	243.63	201.60	42.033	33.812	8.73	<0.0001	4.815	ES
	C	272.05	239.93	32.113	9.621	2.48	0.0001	12.928	ES
LDL	**A**	141.07	129.07	12.00	8.848	2.285	<0.0001	5.253	ES
	B	143.72	133.67	10.056	4.918	1.270	<0.0001	7.920	ES
	C	153.23	141.73	9.493	9.636	2.408	0.0009	3.816	ES
VLDL	**A**	86.18	77.867	8.320	8.675	2.240	0.0012	3.714	VS
	B	101.72	93.733	7.987	5.576	1.440	<0.0001	5.548	ES

(Abbreviations: BMI - Body Mass Index, TG - Triglycerides, LDL – Low Density Lipoprotein, VLDL – Very Low-Density Lipoprotein, HDL – High Density Lipoprotein, FBS – Fasting Blood Sugar, S- Significance)

C) Inter-group study of **subjective parameters** was analysed using **Kruskal Wallis test (Non-Parametric ANOVA) mentioned under table no. 6** which reveals that**:**

- **Significant** result was found in *Pipasadhikya* (P<0.05)
- While P value more than 0.05 was found in *Kshudrashwasa, Swedadhikya, Alasya, Atinidra, Daurbalya* and *Angasada*, so, they have shown **No significant** results.

Table 6 Inter-group study of subjective parameters

S.N.	Parameters	Kruskal Wallis statistic (KW)	P- Value	Significance	INTER GROUP comparison (ANOVA)
1.	***Pipasadhikya***	8.944	0.0114	**S**	A Vs B – S A Vs C - S Vs C –NS
2.	***Kshudrashwasa***	0.02432	0.9879	Post tests were not calculated because the P value was greater than 0.05	
3.	***Swedadhikya***	4.294	0.1168	Post tests were not calculated because the P value was greater than 0.05	
4.	***Alasya***	0.8654	0.6487	Post tests were not calculated because the P value was greater than 0.05	
5.	***Atinidra***	1.482	0.4766	Post tests were not calculated because the P value was greater than 0.05	
6.	***Daurbalya***	1.386	0.5001	Post tests were not calculated because the P value was greater than 0.05	
7.	***Angasada***	0.9836	0.615	Post tests were not calculated because the P value was greater than 0.05	

D) Inter-group study of **objective parameters** was analysed using **ANOVA (Tukey's Multiple**

ORIGINAL RESEARCH ARTICLE

comparison) test mentioned under table no. 7 which reveals that**:**

- BMI (P value 0.5573), Serum cholesterol (P value 0.3185), Triglycerides (P value 0.3520), LDL (P value 0.6738), VLDL (P value 0.3442), HDL (P value 0.4168) and FBS (P value 0.9948) have shown P value more than 0.05, which shows statistically **Not Significant** results on inter group comparison.

Table 7 Inter-group study of objective parameters

Objective Parameters	P Value	Significance	Tukey's Multiple Comparison Test
BMI	0.5573	**NS**	A Vs B – NS A Vs C – NS B Vs C – NS
Cholesterol	0.3185	**NS**	A Vs B – NS A Vs C – NS B Vs C– NS
Triglyceride	0.3520	**NS**	A Vs B – NS A Vs C – NS B Vs C – NS
LDL	0.6738	**NS**	A Vs B – NS A Vs C – NS B Vs C – NS
VLDL	0.3442	**NS**	A Vs B – NS A Vs C – NS B Vs C – NS
HDL	0.4168	**NS**	A Vs B – NS A Vs C – NS B Vs C – NS
FBS	0.9948	**NS**	A Vs B – NS A Vs C – NS B Vs C – NS

Table 8 Overall effect of therapy:

S. No.	Subjective Parameters	% Relief		
		Group A	**Group B**	**Group C**
1.	***Pipasadhikya***	72.478	62.0	53.83
2.	***Kshudrashwasa***	70	65.54	58.80
3.	***Swedadhikya***	62.50	60.01	55.96
4.	***Alasya***	54.33	49.97	56.23
5.	***Atinidra***	66.66	60.01	56.23
6.	***Daurbalya***	62.50	54.53	44.44
7.	***Angasada***	67.96	54.81	50.0
	Total	65.204	58.137	53.64

Table 8 interpretates that symptomatically, 62.204 % relief was found in group A, while 58.137% relief was detected in Group B and 53.64% relief was calculated in group C. So, it can be concluded that moderate relief was found in all three groups.

Table 9 Presenting the % relief of the trial on objective Parameters (in all three groups):

S. No.	Objective Parameters	% Relief		
		Group A	**Group B**	**Group C**
1.	BMI	3.671	3.838	3.045
2.	Serum Cholesterol	13.68	11.73	8.78
3.	Triglycerides	19.168	17.2	11.80
4.	LDL (Low Density Lipoprotein)	8.50	6.99	6.2

5.	VLDL (Very Low-Density Lipoprotein)	9.653	7.85	5.83
6.	HDL (High Density Lipoprotein)	10.16	7.54	4.14
7.	FBS (Fasting Blood Sugar)	0.895	0.775	0.82
	Total	9.389	7.789	5.80

Table 9 interpretates that in objective parameters or anthropometric & laboratory findings, 9.389 % relief was calculated in group A, while 7.789 % relief was found in Group B and 5.80 % relief was found in group C. So, it can be concluded that non-satisfactory relief was found in all three groups.

DISCUSSION

Discussion on literary aspect:

Nidana of *Medo-Dushti* or dyslipidaemia are, those which directly causes vitiation of *Medadhatvangni* and as a result produces *Ama Meda Dhatu*. In a person doing no physical exercise, enjoying day time sleep and consuming *Kapha Vardhaka* diet, sweet substances in the food juice are generally converted into *Sneha* which leads to increase in the bodily fat.

As well as *Agnimandhya* in the body causes *Rasadhatvagnimandhya* and thus vitiated *Rasa Dhatu*, which turns *Pichchhila*, *Apakva* and *Ati snigngdha* in nature and also causes vitiation of *Medo- Dhatu.*

Therapeutic aspect of dyslipidaemia according to *Ayurveda*

To achieve *Dhatusamya* and *Ama Pachana* is the main target in *Ayurveda*. So, the treatment of *Medo-Dushti* (dyslipidaemia) should be also prepared for achieving *Dhatusamya*. *Nidana* of *Medo-Dushti* vitiate *Jatharagni*, *Rasa Dhatvagni*, and *Meda Dhatvagni* and increase *Ama*, *Kapha*, *Kleda*, and *Abaddha Meda* in the body.

Discussion on Daily regimen and *Yogik Kriya Kapalbhati*: Ingredients of *Shadangapaniya* have various pharmacodynamic properties as mentioned in *Charak* and *Sushrut Samhita* (table no. 10)[15-21]

Table 10 Ayurvedic pharmacodynamics of ingredients of *Shadangapaniya*[15]

Ingredient	***Rasa***	***Guna***	***Virya***	***Vipaka***	**Action on *Dosha***	**Action regarding dyslipidaemia**
Musta[16]	*Tikta, Katu, Kashaya*	*Laghu Ruksha*	*Sheet*	*Katu*	*Kapha-Pittahara*	*Deepana, Pachana, Grahi, Lekhana*
Parpataka[6]	*Tikta*	*Laghu*	*Sheet*	*Katu*	*Kapha-Pittahara*	*Trishnanigrahana, Grahi*
Usheer[18]	*Tikta, Madhur*	*Ruksha, Laghu*	*Sheet*	*Katu*	*Kapha-Pittahara*	*Pachana, Stambhana*
Chandana[19]	*Tikta, Madhura*	*Guru, Ruksha*	*Sheet*	*Katu*	*Kapha-Pittahara*	*Vrishya, Chakshushya*
Sugandhbala[20]	*Tikta, Kashaya, Madhur*	*Laghu, Ruksha*	*Sheet*	*Madhur*	*PittaKapha Shamaka*	*Hridrogahara, Hrillasahara, Jwarahara, Ruchivardhaka, Deepana, Pachana, Dahahara, Kushthagna, Raktapittahara*

ORIGINAL RESEARCH ARTICLE

Shunthi[21]	*Katu*	*Guru, Ruksha, Teekshna*	*Ushna*	*Madhura*	*Vatahara-Kaphahara*	*Bhedana, Deepana, Pachana*

When we study about all the component of *Shadangapaniya*, the combined effect of all drugs is *Amapachana*, *Trishnanigrahana*, *Angamardaprashamana*, *Kapha-Pittahara* and *Dahaprashamana*. All these properties of *Shadangapaniya* help in alleviating the symptoms of *Medo-dushti* by digesting the *Ama*, lowering the *Kapha* and *Meda*, hence, restoring the normal functioning of *Agni*.

Probable mode of action of *Ushnodaka*:

Acharya Charak has mentioned that hot water is useful in digestion, ingestion of hot water expel gas, stimulates digestive power, digests quickly, dries up the mucus and relieves thirst when taken even in a smaller quantity[22].

Hot water is *Deepana* (influencer of digestive fire), flatus-relieving, good for throat *(Kanthaya)*, *laghu* (light), and it purify urinary bladder (help in voiding urine). It is good in *Hidhma* (eructing), *Adhmana* (abdominal distension), in vitiation of *Vata*, *Pitta* and *Kapha* soon after giving the *Shodhana* (eliminative therapy)[23].

Discussion on *Yogik Kriya Kapalbhati:*

Kapalbhati refers to a skull-shining practice. It is one of the *Shatkarmas* and is said to cleanse the skull (six cleansing process in *Hathayoga*)[24]. It is said to be pacifier of *Kapha* and *Meda*. *Kapalbhati* is advise for dyslipidaemia. it enhances metabolism and influence different hypothalamic centers controlling the thirst and feeling of satiety. Because it works on the abdominal muscles, lowers fat, and improves body tone, the *Kapalbhati* practice is ideal for weight loss[25].

CONCLUSION

In the current research work the following conclusion were drawn:

- There is no direct correlation of dyslipidaemia to any disease in Ayurveda, but we can correlate dyslipidaemia with *Medo-Dushti* based on clinical symptoms and fundamentals given in classics**.**
- *Shadangapaniya*, *Ushnodaka* and *Kapalbhati* are very effective in the management of *Medo-Dushti* (dyslipidaemia). All of them absolutely decrease all the symptoms of *Medo-Dushti* that include *Pipasadhikya*, *Kshudrashwasa*, *Swedadhikya*, *Alasya*, *Atinidra*, *Daurbalya*, *Angasada* etc. Improvements in symptoms of *Medo-Dushti* are carried by *Samprapti Vighatana* of the ailment. It demonstrates that the trial medicine has the added benefit of enhancing the physiological digestion process.
- In present clinical trial there was significant result in the values of serum cholesterol, triglycerides, LDL and VLDL.
- If the percentage relief in subjective & objective parameters in all groups are compared, it is concluded that Group A (*Shadangapaniya* along with *Kapalbhati*) has shown better results

as compare to Group B (*Ushnodaka* along with *Kapalbhati*) and Group C *(Yogik Kriya Kapalbhati*).

- In this study, the majority of patients experienced an increase in their quality of life.
- Ingredients of *Shadangapaniya* are inexpensive and widely available across the country. Finally, *Shadangapaniya* is the medicine of choice for both preventive and curative prophylactic in the management of dyslipidaemia.

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