

**TO STUDY THE EFFECT OF VYOSHADI VATI ON MEDOVRIDDHI
(DYSLIPIDEMIA) W.S.R. TO LIPID PROFILE**

Ade Jaykumar Sadashiv¹ Bhabad Pradeep Ramrao² Madgundi Anand Krishnahari³

¹ Assitant Professor, Dept. of Kriyasharir, SGR Ayurved College, Solapur, Maharashtra, India

² Associate Professor, Dept. of Sanskrit Samhita, SMBT Ayurved College, Dhamangaon Nashik, Maharashtra, India

³ Assitant Professor, Dept. of Rachana Sharir, SGR Ayurved College, Solapur, Maharashtra, India

ABSTRACT

Today's present life style is tremendously altered from last decade. Everyone in society has set the goal of his/her life. To achieve the same no one conscious about their own health, result to development various diseases. *Medovriddhi*(Dyslipidemia) is one of them & it is big challenge worldwide. Due to lack of physical exercise, mental stress, overeating, sedentary lifestyle *Medovriddhi* is commonly observed. The present study was carried out to assess the efficacy of *Vyoshadi Vati* on *Medovriddhi* (Dyslipidemia) with special reference to Lipid Profile. In entire study 30 patients were enrolled at SMBT Ayurved College, Dhamangaon, Nashik Maharashtra from Nov 2012 to August 2013. Only *Medovriddhi* subjects were selected by simple randomized method & others were excluded. All the patients were treated with *Vyoshadi Vati* for 8 weeks with follow up after 2 weeks. Lipid Profile was done in all patients before & after treatment. Result of therapy was evaluated on the basis of improvement in symptom & biochemical parameter (lipid profile). For statistical analysis paired t test & chi-square test was applied. Conclusion of this study is *Vyoshadi Vati* is moderately effective on *Medovriddhi* (Dyslipidemia).

Keywords: Ayurved, Dyslipidemia, Lipid profile, *Medovriddhi*, *Vyoshadi Vati*.

INTRODUCTION:

In today's era everybody are busy in his /her own work to achieve the goal of his /her life. *Ayurved* describe how to live healthy & happy life. For that *Ayurvedic* treatises describes the *Dincharya* (Daily regimen), *Ritucharya*(Seasonal regimen), dietary ethics & regulations. *Ayurved* is Indian system of medicine that aims to emphasize over prevention & maintenance of complete health & to provide cure for ailments.¹ But in today's life no one is

taking care of own heath. Due to artificial lifestyle many people are suffering from various diseases. Most of peoples consume high caloric & fat saturated diet & reductions in physical activities. This lead to *Agnimandya* & results in reduced utilization of energy. *Medadhatu* in body provide maximum calories for the purpose of derivation of energy. If it is underutilized or accumulate in excess then it will start to increase & finally leads to *Medovriddhi*, which also contribute to develop the dis-

ease known as *Sthaulya*. This '*Sthaulya*', described almost in all major *Ayurvedic* Classics is similar to obesity. Dyslipidemia is associated with obesity. Dyslipidemia alone currently affects more than 10% of the global population and India is no exception to this. Obesity is said to lead to 30,000 premature deaths each year and it is shortening the lives of people by an average of nine years.

Many theory have been put forwarded with many new hypothesis describing this disorder in *Ayurved* a as well as modern science, still there is enough scope to work out in its management aspect of *Medovridhhi* (dyslipidemia). On the above concept present study was carried out. In the pathogenesis of *Medovridhhi* (dyslipidemia) *Kledaka Kapha*, *Samana* & *Vyanvayu*, *Medadhatu* & *Medodhatwagni Mandya* were main responsible factor. So accordingly theory was selected which effect on the factor. Main aim was to restore function of *Medodhatwagni*. So in this study *Tikta Rasa*, *Katu vipaka* & *Ushna Virya* predomient drug in compound formulation of *Vyoshadi Vati* was selected. *Guda* (Jaggery) has potency to penetrate up to cellular level. Along with *Guda* (Jaggery) *Amlarasa* predominate *Amlavetas* (*Garcina pedunculata*) mainly restore the function of *Medodhatwagni*. Keeping in mind above concept project was carried out.

AIM AND OBJECTIVES:

Aim: To study the effect of *Vyoshadi Vati* on *Medovridhhi* (Dyslipidemia) w.s.r. to lipid profile.

Objectives:

1. To study the aetiology, pathology, symptomatology & progress of *Medovridhhi* (Dyslipidemia).
2. To stress the importance of studying the *Medovridhhi* (Dyslipidemia).

3. To educate the people to decrease the rising trend of *Medovridhhi* (Dyslipidemia) worldwide.

MATERIAL AND METHODS:

Selection of drug:

Trial drug *Vyoshadi Vati* is polyherbal formulation in the form of *Vati*. Total 9 drugs are described in *Vyoshadi Vati* in *Rasatantrasara* & *Siddha Prayog Samgraha* Part I.

Procurement of drug: Ingredient of *Vyoshadi Vati* namely

1. *Suntha* (*zinzberofficinale*),
2. *Marich*, (*pipernigrum*),
3. *Pippali* (*piperlongum*),
4. *Amlavetas* (*Garcina Peunculata*),
5. *Chavya* (*Chavivaroburghii*)
6. *Talispatra* (*Abies webbiana*),
7. *chitrak* (*Plumbago Zeylancia*)
8. *Jiraka* (*Cuminum Cyminum*)
9. *Guda* (Jaggery) (Black).

All drugs were first identified & authenticated from authority of SMBT Ayurved pharmacy Dhamanagaon Nashik Maharashtra. The raw materials were collected from authorized dealers of raw drugs supplying to SMBT Ayurved pharmacy.

Method of preparation of drug

All the above mentioned drugs were taken in equal quantity in powder form except *Guda* (Jaggery). *Guda* (Jaggery) was taken 4 times of all mixture powder. *Guda* (Jaggery) & all powder were mixed properly & tablets were prepared.

Standardization of investigational drug:

Trial drug was sent for Standardization to department of pharmaceuticals of SMBT College of Pharmacy Dhamanagaon Nashik Maharashtra. Trial drugs hardness, disintegration

time, dissolving time etc. Parameter was checked.²

RESEARCH DESIGN:

Study Population:

An accessible population of adolescence patients in SMBT Ayurved Hospital, Dhamangaon Nashik Maharashtra who were suffering from *Medovridhhi* (Dyslipidemia) participated in the study.

Sampling: Simple random sampling technique.

Study Sample: The patient from periphery area of Dhamangaon, Nashik Maharashtra having clinical manifestation of *Medovridhhi* (Dyslipidemia) were enrolled.

Sample Size:

30 patients having clinical features of *Medovridhhi* (Dyslipidemia), willingly participated in study were selected from SMBT Ayurved Hospital Dhamangaon.

Study Setting:

The study was carried out at SMBT Ayurved Hospital, Dhamangaon Nashik from Nov 12 To August 2013 with due written consent of patient.

Diagnostic Criteria:

A Special proforma was prepared including sign & symptoms of *Medovridhhi* (Dyslipidemia). Every patient was subjected to physical examinations. Patient of *Medovridhhi* (Dyslipidemia) were only enrolled. Total Cholesterol level above 240 mg was also kept main diagnostic criteria for the selection of patient. Other necessary investigations were carried out to exclude the other pathology.

Inclusion Criteria:

1. The patients of either sex, having age between 30 to 70 representing with sign & symptoms of *Medovridhhi* (Dyslipidemia) from SMBT Ayurved Hospital, Dhamangaon Nashik, Maharashtra.
2. Patients of *Medovridhhi* (Dyslipidemia) or associated with IHD or hypertension or familial dyslipidemia.
3. Patients willing to participate with written consent in study.

Exclusion Criteria:

1. Patients of acute MI or acute LVF required hospitalization.
2. Post MI or heart failure.
3. Patients of nephrotic syndrome.
4. Renal disorder.
5. Liver cirrhosis.
6. Diabetes mellitus.
7. Endocrine abnormality which is or appear to be causative factor of *Medovridhhi* (Dyslipidemia).

Ethical Consideration: Ethical clearance was obtained from institutional ethical committee of SMBT Ayurved College & Hospital, Dhamangaon, Nashik, Maharashtra.

Criteria of withdrawal: Increase symptom like cough, dyspnoea, & not willing to continue.

Time & duration of study: The total study period was 10 months i.e from Nov 2012 to August 2013.

TECHNIQUE OF DATA COLLECTION: The patients suffering from *Medovridhhi* (Dyslipidemia) with clinical manifestation were included in this study. As per inclusion criteria patient were enrolled. The patients in the SMBT Ayurved Hospital Dhamangaon Nashik were

thoroughly interrogated; history & facts were noted in a specialised structural clinical proforma based on *Ayurvedic* Classical frame work incorporating physical status examination. General information of patients & its family, chief complaints to know manifestations of disease, past history, history of present illness, family history, personal history to get information on diet, appetite, *nidra*(sleep),*vyasan*(addiction),allergies if any. Systemic as well as *Dashvidh* examination also done. *Asthavidh* examination also included in proforma. Patients were treated with *Vyoshadi Vati*. Before & after treatment lipid profile was carried out with fasting venous sample. The feedback obtained from patients which included graded responses. The information of effect of trial drug obtained after every 2 weeks.

TREATMENT METHODOLOGY & SCHEDULE:

As per inclusion criteria patients were selected by simple random. *Shwasa* (Dyspnoea)

domized method. Methodology of treatment for the patients as follows

1. Tablets were prepared according to *Rsatantrasara & Siddhaprayog Sangraha* Part I.
2. 3 tablets of 500 mg were given thrice a day with hot water before meal for 8 weeks.
3. Patients were allow taking normal diet but advised to avoid oily & fat containing diet.
4. Patients also advised 20 minute brisk walking. Follow up was done after every 2 weeks. Before & after treatment lipid profile was carried out with fasting venous sample.

ASSESSMENT CRITERIA: The improvement in patient was assessed mainly on the basis of following points.

1. Decreased level of lipid components.
2. Improvement in sign & symptoms of disease.

The improvement in sign & symptoms were assessed by adopting following score method.

Sr. No	Symptom	Grade
1	Absent	0
2	Present after heavy work, relived soon & tolerable	1
3	After moderate work, relived later & tolerable	2
4	After little work, relived later & tolerable	3
5	After little work, relived later & intolerable	4

B. *Atipasa* (Excessive intake of water)

Sr. No	Symptom	Grade
1	Normal thirst	0
2	Up to 1liter excess intake of water	1
3	Up to 1 to 2 liter excess intake of water	2
4	Up to 2 to 3 liter excess intake of water	3

5	More than 3 liter excess intake of water	4
---	--	---

C. Other Symptom

Sr. No	Symptom	Grade
1	Absent	0
2	Mild	1
3	Moderate	2
4	Marked	3
5	Severe	4

Considering the overall improvement shown by patients in signs & symptoms the total effect of therapy was assessed in terms of complete remission, improved, moderately improved, mildly improved, & unchanged as follows

1. Complete remission: Complete relief 100% in sign & symptoms was taken as complete remission
2. Markedly improved: patient showing improvement more than 75% in sign & symptoms was taken as markedly improved
3. Moderately improved: patient showing improvement up to 50 to 75 % in sign & symptoms was taken as moderately improved
4. Mildly improved: patient showing improvement up to 25 to 50 % in sign &

symptoms was taken as mildly improved

5. Unchanged: below 25% relief in signs & symptoms of *Medovriddhi*.

ADVERSE EFFECT OF EVALUATION CRITERIA:

Evaluation & reporting of adverse effect was done as per guidelines of National Pharmacovigilance Programme for Ayurveda, Siddha, & Unani (ASU) drugs.

DATA ANALYSIS:

Statistical evaluation of data was done using mean, SD, percentage. For statistics paired t test was applied for quantitative data & for qualitative data Chi-square test was applied.

STASTICAL ANALYSIS:

1. Effect of *Vyoshadi vati* on *Medovriddhi* (Dyslipidemia) w.s.r to total cholesterol.

Parameter	Before treatment	After treatment
Mean	265.51	262
Standard Deviation	13.05	14.90

Paired t – 0.001354 P < 0.01 – more significant. Table shows that *Vyoshadi Vati* shows effect on total cholesterol.

2. Effect of *Vyoshadi vati* on *Medovriddhi* (Dyslipidemia) w.s.r to triglycerides.

Parameter	Before treatment	After treatment
Mean	186.66	184.77
Standard Deviation	15.22	14.66

Paired t – 0.0406 P < 0.05 –significant, table shows that *Vyoshadi Vati* also shows effective on triglycerides.

3. Effect of *Vyoshadi Vati* on *Medovriddhi* (Dyslipidemia) w.s.r to HDL.

Parameter	Before treatment	After treatment
Mean	31.70	32.92
Standard Deviation	2.23	4.68

Paired t – 0.171637 P>0.05 –non significant. It means that HDL level increases after the consumption of *Vyoshadi Vati*.

4. Effect of *Vyoshadi Vati* on *Medovriddhi* (Dyslipidemia) w.s.r to LDL.

Parameter	Before treatment	After treatment
Mean	196.4815	192.15
Standard Deviation	14.42	15.82

Paired t – 0.000531 P < 0.001 –highly significant, *Vyoshadi Vati* most effective on LDL. It decreases the LDL cholesterol effectively.

5. Effect of *Vyoshadi Vati* on *Shwasa*(dyspnoea) . As it was qualitative variable so Chi Square test was applied.

Grade	Before treatment	After treatment
0	0	1
1	9	11
2	8	9
3	9	6
4	1	0

Chi Square test 2 Df p= 0.4753 p>.05 insignificant. It means that dyspnoea is not relieved by *Vyoshadi Vati*.

6. Effect of *Vyoshadi Vati* on *pipassa*(excessive thirst)

Grade	Before treatment	After treatment
0	0	8
1	11	10
2	9	9
3	6	0
4	1	0

Chi Square test 1 Df p= 0.056 p>0.05 insignificant. It means that *Vyoshadi Vati* is ineffective on *pipassa*.

7. Effect of *Vyoshadi Vati* on other symptoms

Grade	Before treatment	After treatment
0	0	0
1	3	13
2	10	10
3	9	4
4	2	0

Chi Square test 2 Df p= 0.007 p<0.01 more significant. It means that *Vyoshadi Vati* is effective on other symptoms of *Medovriddhi* (Dyslipidemia)

8. Overall effect of *Vyoshadi Vati* on *Medovriddhi* (Dyslipidemia)

Results	Number of patients	Percentage
Complete remission	00	00
Markedly improved	01	3.70%
Moderately improved	12	44.44%
Mildly improved	08	29.62%
Unchanged	06	22.22%

Above table shows that *Vyoshadi Vati* moderately effective on *Medovriddhi* (Dyslipidemia).

OBSERVATION & RESULTS:

A total 30 patients were enrolled for this project. Out of which 3 patients were dropped out in the course of study. Male preponderance 70% over female 30% was seen indicating male are more prone to *Medovriddhi* (Dyslipidemia). 83.33% were married while 16.67 were unmarried. Prevalence of *Medovriddhi* (Dyslipidemia) in context to occupation was more seen in business type. Socio-economically 46.66% patients were belonging to higher economical condition. According to diet 53.44% patients were non vegetarian. Analysis of *Prakruti* revealed about one third of patients were belonging to *Kaphavata*. Statistically it was proved that *Vyoshadi Vati* is effective on lipid components. Symptoms wise dyspnoea & excessive thirst was not relieved by this drug. Overall therapy effect of this drug is moderately effective.

DISCUSSION:

In Ayurveda *Medovriddhi* (Dyslipidemia) is described almost in all compendia. The pathogenesis which was described in *Ayurvedic* treatises same was seen in patients. Due to over saturation, intake of heavy sweet, cold & fatty diets, indulgence in day sleeping, lack of mental work & genetic defect; entire body becomes oily, abdomen & flanks becomes obese, subjects suffers from cough, asthma & he smells very bad.³ Dyslipidemia is defined as abnormality of serum lipids & lipoproteins, including low level of HDL cholesterol & increased level of LDL cholesterol.⁴ The patients of *Medovriddhi* (Dyslipidemia) show same scenario. The sterol is present in most body tissue part. This cholesterol is synthesized from multiple of acetyl CoA.⁵ These molecules will get accumulated in excess quantity on body. The same may causes problems to

health. Ayurveda also describe in same fashion i.e underutilization of energy (*medodhatu*) leading to *Medovriddhi*. Therefore there is scope to put these two things in same compartment. Cholesterol in body disturbed in variety of lipoprotein. The majority is in the form of LDL & VLDL, moderately in the form of intermediate density lipoprotein, & much smaller in HDL⁶. By this project it proved that LDL cholesterol is increased in *Medovriddhi* (Dyslipidemia) & it can be lowered down by effective therapy & diet management.

PROBABLE MODE FOR ACTION:

In the pathogenesis of *Medovriddhi*, predisposing factor was *Kapha* vitiated diet & vihar. Prime factor was *Medodhatwagni mandyta*. It leads to excessive growth & accumulation of *Medodhatu*. Most of drug having *Tikta Rasa*, *Katu Vipaka* & *Ushana Virya*. They also have function like *Kaphasaman* & *lekhan*(depletive)⁷. *Amapachana* & *Dhatu-Shoshan* properties of *Vyoshadi Vati* normalize the function of *Agni*. The drugs possess the *Tikta Rasa* which helps in the clearing the obstruction in the *Strotas* (channels). *Kapha* & *Medadhatu* both are *Prithvi* & *Jala Mahabhuta* entities. So in the management of *Medovriddhi* drug must be opposite of these two *Mahabhut* in dominance. This achieved by *Tikta Rasa* as it has *Khara* property & it is *Vayu* & *Aakash Mahabhut* predominated *Rasa* which is opposite in *Medadhatu*. *Amlarasa* & *Guda* (Jaggery) has potency to reach at cellular level & restore function of *Medodhatwagni*. The ethandic extract of ginger have extensively studied & it has been proved that it has hypochloestrolemic & hypotriglyceridemic effect. It also increases HDL level.⁸

CONCLUSION:

The extensive study of *Nidan panchaka* (Pathogenesis) & treatment of *Medovridhhi*, it is revealed that *Medodhatawagni Mandya* is prime factor & sedentary lifestyle is leads to *Medovridhhi*. From observation & statistical analysis it is proved that *Vyoshadi Vati* is moderately effective on *Medovridhhi* (Dyslipidemia).

LIMITATIONS: The study was limited to single geographical area. Sample size was very small.

Recommendations for future research: This research work was an honest effort to verify the efficacy of *Vyoshadi Vati* on *Medovridhhi* but any other view for further study is humbly recommended. Since being small sample size, this study has its own limitations so need have work in better sample size is required.

Acknowledgement: We would like to thank our friend Dr Nitin Pandav who really helps in entire project. We take this opportunity to thank Dr Sapana Ade, Dr Ravi Usturge, & Dr Nitin Gavane who helped us at every stage of this project.

REFERENCES:

1. Charak Samhita Of Agnivesha, Elaborated by Charak & Drdhabala Edited with Charak Chandrika, Hindi Commentary along with special deliberation by Dr Brahamanand Tripathi, volume I, Charak Sutrasthana, chapter no 30 verse no 26, page no 565, published by Chaukhambha surbharthi prakashan Varanasi, Reprinted 2006.
2. Rasatanrasaar & Siddha Prayog Sangraha Part I Krishna Gopal Ayurved Bhavan (D.T Post Kalera) Gopal 305408(Ajmer) Rajesthana Publication Page No 325.
3. Susut Samhita of Maharsi Susruta edited with Ayurved Tattva Sandipaka by Kaviraj Ambika Duttta Shastri Part I

Susrut Sutrasthana chapter 15 verse no 19 page no 60 Chaukhambha Sanskrit prakashan Varanasi, Reprinted 2008.

4. Medicine for student Dr Aspi F. Golwala & sharukh Golwala Chapter no 16/6 page no 1018, 22nd edition published by Dr Aspi F. Golwala Reprint 2008.
5. Textbook of Physiology, Guyton & Hall Saunders Unit 13, Chapters 58 page no 788, An Imprint Of Elsevier first edition 2001,
6. Essential of Medicinal Physiology , K Sembulingam & Prema Sembulingam, Section 4, chapter 47, page 268, JAY-PEE Brothers Medical Publication, New Delhi, fourth edition 2006.
7. Charak Samhita Of Agnivesha, Elaborated by Charak & Drdhabala Edited with Charak Chandrika, Hindi Commentary along with special deliberation by Dr Brahamanand Tripathi, volume I, Charak Sutrasthana, chapter no 26 verse no 42-4, page no 484, published by Chaukhambha surbharthi prakashan Varanasi, Reprinted 2006.
8. Dravyaguna V.V.Gogate Dravya no 31, page no 274, Vaidyamitra prakashan, Pune 411030 First edition 2008.

CORRESPONDING AUTHOR

Dr. Jaykumar Sadashiv Ade
Assitant Professor, Dept. of Kriyasharir,
SGR Ayurved College, Solapur,
Maharashtra, India

Email id: drjayade@gmail.com