

EFFECT OF SHODHANARTHA VARDHAMANA SNEHAPANA ON LIPID PROFILE

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ABSTRACT

Background: *Chikitsa* is the process adopted for bestowing *Dhatusatmyata* and making the body disease free. This is broadly classified into two *Shodhana* (eliminatory procedures) and *Shamana* (pacificatory procedures). *Purvakarma* or pre-operative procedures plays vital role for the success of *Shodhana* procedure. For appropriate *Shodhana* a movement of *Dosha* towards *Koshtha* is very essential achieved through *Snehapana* and *Swedana*. For *Shodhana* purpose *Vardhamana Snehapana* is practised. There is a fear in the patients that oral intake of lipids may lead to an increase in the biochemical parameters especially the lipids. **Aims and Objectives:** And hence this clinical trial was started aiming to prove the scientific background of *Snehapana* showing that there is no such harm or disturbance in the lipid profile of patients. **Material and Methods:** Open labelled randomized open ended clinical trial conducted on healthy volunteer as well as patients of bronchial asthma age between 15-55 years of age. *Vasantika Vamana* was carried out after the *Vardhamana Snehapana* administration. **Observations and Results:** The results of the clinical trial reveals that there is an arbitrary increased in the serum level of different lipids after the completion of *Vardhamana Snehapana* but eventually there is significant decrease in the all serum lipids level at the end of *Samsarjana Krama* and certain values showed statistical significant results too ($p < 0.001$). **Discussions and Conclusion:** In all after considering the classical references, clinical experience of different Ayurveda physicians and result of the clinical trial it is very clear that there is no harm in using the *Snehapana* in increased dose for *Shodhana* purpose without altering lipid level and without causing detrimental effects to the health of patients.

KEY WORDS: Lipid profile, *Shodhana*, *Vamana*, *Vardhamana Snehapana*.

1. INTRODUCTION

Ayurveda treatment modalities can be categorized in broad sense as *Shodhana* and *Shamana Chikitsa*.^[1] Among which *Shodhana* is popularly known as *Panchakarma* including *Vamana* (therapeutic emesis), *Virechana* (therapeutic purgation), *Basti* (therapeutic enema), *Nasya* (nasal drops instillations) and *Raktamokshana* (bloodletting).^[2] Out of those five procedures mainly first two that is *Vamana* and *Virechana* required some pre-operative procedures or *Poorva Karma* in order to make body fit for easy and soothing removal of morbid *Dosha* as well as to get optimum effect of the therapy. *Snehana* and *Swedana* are two important *PoorvaKarma*^[3] generally practised in day to day practices. *Snehana* means oleation of body with the help of different oils, Ghee and animal fats with internal as well as external applications.^[4] Whenever administration of the edible fats either in medicated or pure form is called as *Abhyantara Snehapana*. *Abhyantara Snehapan* is very prerequisite of all kind of classical *Vamana* and *Virechana* therapy as morbid *Doshas* are made *Shithila* and separated from *Dhatu*^[5] or

body tissue and flow towards GIT so that it can be easily removed from body. And hence the *Snehana* is the major preparatory procedure to be performed before *Shodhana*. The whole *Shodhana* procedure depends upon the proper mobilization of *Doshas* from the *Shakha* which is to be achieved with the help of *Snehana* and *Swedana*. Out of these two, the *Snehana* is a major process which decides the whole outcome of *Shodhana* procedure. If *Snehana* is not done properly, it definitely affects the *Shodhana Karma* performed afterwards. Hence, it is obligatory to start and increase the *Sneha Matra* in appropriate & judicious way considering the *Koshtha* and *Agni* of the subject. The dosage of *Sneha* differs from person to person by assessing the *sneha jiryamana* and *jirna lakshanas*. To take such large amount of *snehapana* it always create dilemma to patient whether it cause adverse effect on health so Clinical study of *Shodhanartha vardhamana Snehapana* effect on lipid profile was planned.

2. AIMS AND OBJECTS

2.1 To study the effect of *Shodhanartha Vardhamana Snehapana* on lipid profile in patients and healthy individuals.

3. MATERIALS & METHODS

Vasantik vama karma was carried out in 15 Swastha and 15 Tamaka Shwasa patients.

3.1 Study design for Clinical trial

3.2 Type of trial: Open Labelled Randomized Clinical Trial

3.3 Sampling: Simple Random Sampling

3.4 Criteria for Selection

Patients fulfilling the inclusion criteria, attending the OPD & IPD of the DEPARTMENT OF KAYACHIKITSA, R. A.PODAR hospital were selected irrespective of sex, religion, occupation etc.

Mainly two groups:

Group A – 15 Healthy volunteers

Group B – 15 Patients (Tamak-shwasa)

3.5 Inclusion Criteria

Group A: Healthy Volunteers

- Age: between 15 to 60 yrs.
 - Sex : both male & female
 - General & laboratorial investigation within normal limit
 - At present not suffering from any disease
- Group B: Patients Tamaka-Shwasa (Bronchial Asthma)
- Age : between 15 to 60 yrs
 - Sex : both male & female
 - Symptoms of Tamaka-Shwasa^[6] (describe in Ayurvedic text)
 - The patient having H/O Asthma since last 5yrs

Patients having disease Tamak-shwasa and healthy volunteers belonging to age group of 16-60yrs. were selected for the study.

3.6 Exclusion Criteria

- Age : below 15 & over 60 yrs.
- Weak person, pregnant lady, *sukumar*, *kshata* – *kshina*
- Patient suffering from any serious systemic disorder like Cardiac disorders, Tuberculosis, anaemia etc.

3.7 Methods of application of *Snehapana Karma* and *Vamana Karma*

Poorvakarma: The general examinations like Pulse, B.P., Temperature, Weight, *Jiwha*, *Sparasha*, ECG etc. were carried out before *Vamana*.

Deepana & Pachana: Panchakola Choorna 2gms bd. For 3 days.

Vardhamana Snehapana: First day test dose ie. Hrasiyasi matra approximately 30ml as the minimal dose was given & then dose was increased on the basis of analysis of *Agni* and response of *Koshtha* to the dose (response of patient's digestion and time taken to digest the *Sneha*).

Go Ghrita was given till the occurrence of *Samyak Snigdha Lakshana*.^[7]

Time: Early in the morning, at Sunrise time, after digestion of previous meal.^[8]

Anupana: UshnaJala

Diet during *Snehapana*: Patients were told to take light food only after appearance of *Jeerna Sneha Lakshana*.^[9]

Test Dose: Hrasiyasi matra 30ml.

3.8 Laboratory Investigations

- 1) Routine Blood, Urine and Stool investigations before & after *Snehapana* and after completion of *Samsarjana Krama* were done.
- 2)
- 3) Lipid profile before & after *Snehapana* and after completion of *Samsarjana Krama*.

3.9 Procedure of *Abhyantara Snehapana*

In the morning between 6 am to 7.00 am (After proper digestion of Previous night meal) the subjects were administered the *Go-Ghrita* in *Vardhamana* pattern. *Ushna Jala* was given as *Anupana* following the *Ghrita* intake. After administering *Ghrita*, instructions were given to the subjects - not to take any type of food until he / she feels hunger and only hot water was allowed to drink.

Patients were instructed strictly not to perform *Diwasvapna*, *Ratrijagarana* etc. The *Jeeryamana* and *Jeerna Lakshana* of *Sneha* were carefully observed.^[10] The duration of *Jeeryamana Lakshana* as well as time required to appear the *Jeerna Lakshana* was assessed. Depending on the time taken by subject for *Jeerna lakshanas* of *Sneha* next day's dose was decided. The *Samyak Snigdha Lakshanas* were observed daily and were recorded accordingly. After the appearance of *Samyak Snigdha Lakshanas Snehapana* was stopped and *Vamana Karma* was conducted.

3.10 Pradhana Karma

Vamankarma:

Madan phala yoga – madanphala choorna 2gm+ Vacha choorna 125mg+ Saindhava 1gm+ honey qs
Aakanthapana – Yashtimahu phanta

3.11 Paschatkarma

Samsarjana Karma: *Samsarjankarma* according to *shudhi prakar*.

4. OBSERVATIONS AND RESULTS

4.1 Observations on Demographical Data.

Table 1: Age wise distribution of the healthy volunteers and patients undergone *Snehapana*.

Sr. No	Age	Group A %	Group B %
1	15-25	6.66	26.66
2	26-35	66.66	20
3	36-45	26.66	33.33
4	46-55	-	20

Data suggests that maximum volunteers are belongs to 26-35 age groups while maximum patients were belongs to 36-45 age group.

Table 2: Sex wise distribution of the healthy volunteers and patients undergone *Snehapana*.

Sr. No	Gender	Group A %	Group B %
1	Male	53.33	80
2	Female	46.66	20

Data suggests that maximum volunteers as well patients were male.

Table 3: Religion wise distribution of the healthy volunteers and patients undergone *Snehapana*.

Sr. No	Religion	Group A %	Group B %
1	Hindu	100	80
2	Muslim	-	20

Data suggests that maximum volunteers as well as patients were belongs to Hindu community.

Table 4: *Prakriti* wise distribution of the healthy volunteers and patients undergone *Snehapana*.

Sr. No	Prakriti	Group A %	Group B %
1	Kapha-Paittika	40	53.33
2	Kapha-Vatika	20	6.66
3	Pitta-Kaphaja	40	40

Data suggests that maximum volunteers as well as patients were having *Kapha-Paittika* and *Pitta-Kaphaja* *Prakriti*.

Table 5: *Agni* wise distribution of the healthy volunteers and patients undergone *Snehapana*.

Sr. No	Agni	Group A %	Group B %
1	<i>Manda</i>	46.66	80
2	<i>Tikshna</i>	6.66	13.33
3	<i>Vishama</i>	26.66	6.66
4	<i>Sama</i>	20	-

Table 6: *Koshtha* wise distribution of the healthy volunteers and patients undergone *Snehapana*.

Sr. No	<i>Koshtha</i>	Group A %	Group B %
1	<i>Mridu</i>	13.33	13.33
2	<i>Madhyama</i>	73.33	60.1
3	<i>Krura</i>	13.33	26.66

Data shows that maximum volunteers and patients had *Madhyama Koshtha* followed by *Krura Koshtha*.

Table 7: *Sneha Jiryaman lakshana* observed in healthy volunteers and patients undergone *Snehapana*.

Sr. No	<i>Lakshana</i>	Group A %	Group B %
1	<i>Shiroruja</i>	66.66	53.33
2	<i>Praseka</i>	60	66.66
3	<i>Anga Sada</i>	100	86.66
4	<i>Klama</i>	100	100

Table revealed that maximum percentage of the patients of both the groups shows almost all the signs if the *Sneha Jiryamana Lakshana* (parameters to assess the process of digestion of the *Sneha* administered).

Table 8: *SnehaJirnaLakshana* observed in healthy volunteers and patients undergone *Snehapana*.

Sr. No	<i>Lakshana</i>	Group A %	Group B %
1	<i>Sharira laghavam</i>	100	93.33
2	<i>Vatanulomana</i>	80	73.33
3	<i>Kshudhapravritti</i>	26.66	40
4	<i>Trishnapravritti</i>	-	6.66
5	<i>Udgarshuddhi</i>	40.66	60

Table revealed that maximum percentage of the patients of both the groups shows almost all the signs if the *Sneha Jirna Lakshana* (parameters to assess the completion of the digestion of the *Sneha* administered).

Table 9: *SamyakSnehanalakshana* observed in healthy volunteers and patients undergone *Snehapana*.

Sr. No	<i>Lakshana</i>	Group A %	Group B %
1	<i>Vatanulomya</i>	86.69	80
2	<i>Dipta Agni</i>	33.33	26.66
3	<i>Varcha Snigdha Asamhatam</i>	100	100
4	<i>Mardavam</i>	96.33	100
5	<i>Snigdhatta Ange</i>	100	100
6	<i>Glani</i>	100	100
7	<i>Anga Laghavam</i>	93.33	93.33
8	<i>Adhah Snehadarshanam</i>	100	100
9	<i>Sneha Udvega</i>	100	100

Table revealed that maximum percentage of the patients of both the groups shows almost all the signs if the *Samayaka Snigdha Lakshanas* (parameters or landmarks for the optimum and appropriate *Snehapana* therapy.

Table 10: *Snehapana Kalavadhi* observed in healthy volunteers and patients undergone *Snehapana*.

Sr. No	<i>Snehapana Kalavadhi</i>	Group A %	Group B %
1	3	13.33	20
2	5	73.33	40
3	6	-	13.33
4	7	13.33	26.66

Table shows that maximum patients have completed their *Snehapana Upakrama* on 5th day of *Snehapana*.

4.2. Results: Effect of therapy – *Snehapana*

Table 11: Effect of *Snehapana* therapy on healthy individuals.

Sr. No.	Parameter	Before <i>Snehapana</i>	End of <i>Snehapana</i>	End of <i>Samsarjana Krama</i>	Mean Difference	SD	SE	't' value	P value	S
1	Serum Cholesterol	167.8 ± 26.18	188.93 ± 24.26	154.07 ± 19.31	13.73	19.095	4.934	2.7832	P < 0.01	S
2	HDL	46.92 ± 7.4	48.82 ± 6.71	4.53 ± 6.72	1.622	6.057	1.565	1.036	P > 0.1	NS
3	LDL	100.75 ± 17.42	112.36 ± 14.16	93.67 ± 16.16	7.08	17.940	4.635	1.527	P > 0.1	NS
4	VLDL	24.02 ± 14.33	27.32 ± 15.22	21.58 ± 12.16	2.44	5.321	1.375	1.774	P < 0.01	S
5	TG/HDL	4.00 ± 0.4	4.44 ± 0.59	3.5 ± .45	0.126	0.525	0.135	0.932	> 0.1	NS
6	STG	108.65 ± 46.62	117.54 ± 43.43	95.75 ± 3.4	12.9	26.940	6.961	1.85	P < 0.05	S

From statistical analysis it is clear that most of the parameters show good result at the end of therapy. And statistical significance of the data shows mixed results with significant results in some parameter while non significant results in some parameters in the healthy individuals treated with the *Snehapana*.

Table 12: Effect of *Snehapana* therapy on patients of BA.

S. N .	Parameter	Before <i>Snehapana</i>	End of <i>Snehapana</i>	End of <i>Samsarjana Krama</i>	Mean Difference	SD	SE	't' value	P value	S
1	Serum Cholesterol	162.51 ± 29.56	187.4 ± 34.73	156.6 ± 31.88	5.91	19.769	5.108	1.157	P < 0.01	S
2	HDL	45.6 ± 5.71	50.24 ± 8.8	47.4 ± 11.37	1.706	9.586	2.477	0.688	P > 0.1	NS
3	LDL	95.22 ± 26.17	117.1 ± 21.45	104.2 ± 17.94	8.98	25.891	6.690	1.342	P > 0.1	NS
4	VLDL	20.9 ± 9.23	22.79 ± 10.8	21.06 ± 11.73	10.41	10.415	2.691	0.061	P < 0.01	S
5	TG/HDL	3.96 ± 0.42	3.92 ± 4.99	3.76 ± 0.56	0.206	0.361	0.093	2.212	> 0.1	NS
6	STG	103.56 ± 45.23	99.52 ± 23.05	94.16 ± 47.02	9.406	31.237	9.621	0.977	P < 0.05	S

From statistical analysis it is clear that most of the parameters show good result at the end of therapy. And statistical significance of the data shows mixed results with significant results in some parameter while non significant results in some parameters in the patients of bronchial asthma treated with the *Snehapana*.

5. DISCUSSIONS

Discussion on Demographical data

In this clinical study mainly the volunteers undergone the therapy are belong to *Tarunyavasthaas Vamana* can be tolerated by this age group people with minimal complications if any. In Ayurveda classics too *Vamana Karma* is said to be contraindicated in childhood and geriatric age group people hence in present study

maximum patients as well as volunteers of middle age group was selected (table no. 1). According to *prakruti* mainly *kapha* dominance *prakruti* volunteers were in large numbers (table no. 4). As the study carried out in *Aanupa desha* (Mumbai), mainly *kapha* dominance *prakritti* patient suffering from asthma was commonly found. Because of *desha* only *Vamana karma* was selected for *shodhana* procedure during *Vasant Rutu*.

During this study mainly the volunteers & patients was having *Manda Agni* (table no. 5) which attributed to their *Prakriti, Rutu, Vyadhi Avastha* and *Desha*. As study was carried out in *Aanupa desha*, and during *KaphaPrakopakaKala* ie *Vasant Rutu* maximum patients show *SamyakaSnigdhaLakshana* within a period of 5 days (table no.10). This observation reflects the increased or *Prakupita Kapha* in *Anupa Desha*, *Kapha Prakriti* People is the main cause for early *Samyaka Sneha Lakshana*.

Discussion on the clinical utility and significance of VardhamanaSneha Matra

In *Brihatrayi*, the *VardhamanaKrama* for *Sodhanartha Snehana* is not given but *Chakrapani* gives a clue in his commentary on *Cha.Si.1/6*. There he says that - the *Snehapana* after 7 days is prohibited because, and then *Sneha Matra* gets *Satmya* to the body, so it doesn't perform the desired *Snehana Karma*. So the more quantity which doesn't get *Satmya* is to be given after 7 days also. That means *Matra* should be arranged in this way that body should not become accustomed to it.^[11] Because if the *Sneha* is administered in constant dosage, the body becomes habituated to *Sneha* and *Sneha* will fail to produce the required *Klinnata* of *Doshas*, *Sodhana* cannot be done if the *Doshas* are not *Klinna* (*Utklishṭa*). The *Klinnata* is described in the form of *Samyak Snehana Laksanas*.

The digestion of *Sneha* is assessed by the *Sneha Jeeryamana* and *Jeerna Lakshanas*. Acharya *Vagbhata* has narrated the *Sneha Jeeryamana Lakshanas* as *Shiroruk* (headache), *Bhrama* (giddiness), *Nishtiva* (salivation), *Murcha*, *Saada* (pain), *Arati* (tiredness), *Klama* (fatigue). These are the *Lakshanas* seen during digestion of *sneha*. After the digestion of *Sneha* the *Jeerna Lakshanas* appears like *Vatanuloma* (passing of flatus), *Swasthyam* (feeling of wellness), *Kshudha* (appetite), *Trushna* (thirst), *Udgharashuddhi* (eructation) occurs.^[12] All these symptoms were observed predominantly in most of patients which suggests the proper *Snehapana Karma* was done during this clinical trial. Classical facts are supported with the clinical figures (table no. 7, 8 & 9).

Discussion on Probable mode of action of Snehapana

Abhyantara Snehapana is the process of administration of *Sneha* internally employed for the purpose of *Shodhana*. It is important here to understand the signs and symptoms of *Samyak Snehana* described by Acharyas i.e. *Snehana* indicates *Snigdhatta*, *Vishyandana* refers to *Vilayana* (dissolution or diffusion) *Dalhanacharya* while commenting on *Apyadravyaguna* and *Karma* quotes *Vishyandanam* as *Vishyandanam Drava Srutihi*, *Mardavata* means softness. *Kleda* is moistness or wetness. Here *Kleda* signifies the increase of *Apya Guna* in the body. Considering these *Gunas* as the primary features the assessment of *Samyak Snigdha* is done. *Sneha* is to be considered by the unctuousness of the body, stool and skin (*Pureesha, Twak* and *Gatra*

Snigdhatta). *Vishyandana* is witnessed by excretion of stool with or without *Sneha*, (*SnigdhaMala* and *Adhastat Snehadarsana*). *Mardavata* is assessed by *Gatra Mardava*. *Kledana* is assessed by consistency of stool i.e., *Asamhat Varchas*.

It is well-known that the *Doshas* are present throughout the body. *Sneha*, by its *Sukshma Guna* and *Kledana Karma*, bring the *Doshas* to *Koshta* from other *Margas*, where *Kledana Karma* acts as a solvent of the morbid *Doshas*, here the fat soluble impurities in the body will be eliminated. As *Shodhana Dravya* bring the *Doshas* to *Koshta* for elimination. The knowledge of digestion and absorption of *Sneha Dravya* is very important before commencing *Snehana* procedure. In *Ayurveda*, the *PakaKarma* of *Sneha* is not vividly explained by Acharya. Instead the process of *Sneha* digestion can be considered on the basis of *Sneha Jeeryamana* and *Jeerna Lakshanas*.

The aim of the *Snehana* therapy is to prepare the body for *Shodhana* by bringing the *Doshas* situated in peripheral tissues to the *Koshta*, thus easily expelled out.^[13]

Sneha has the predominance of *Aap Mahabhuta*, which was also corroborated by the specific qualities described by various Acharyas like *Charaka* and *Vagbhata*. (*Cha.Su.22/15*, *AH.Su.1/11*) and also it is hydrophilic in nature. After proper *Snehana* all the cells of body become completely saturated with fats. Then the fat material comes out of the cell to extra-cellular fluid by osmosis process. So due to the aqueous properties of *Sneha* and liquified *Malas* brought from the tissues, the levels of fatty acids etc. increases in the blood resulting in the high plasma volume. To keep up the equilibrium of the normal plasma level, the extra amount of liquid from it, reaches to the *Koshṭha* for excretion. This is called as *AnuPravanaBhava*. Later on when emetics or purgatives are administered, this increased amount of the body fluids are evacuated by which the vitiated *Doshas* and un-excreted *Malas* also expelled out resulting in the radical cure of the disease. By the combined effect of *Snehana* and *Svedana*, excessive increase of *Dosha*, liquification of *Dosha*, digestion of *Dosha*, opening of *Srotomukha* and control of *Vata*.

Discussion on previous evidence based trial on Snehapana in Lipid profile

Oral ingestion of cholesterol is reflected as a mild increase, devoid of severe increase in the plasma concentration. However, impairment of *Jatharagni* (Digestive fire), when cholesterol is ingested, the rising concentration of cholesterol inhibits the most essential enzyme for endogenous synthesis of cholesterol, thus providing an intrinsic feedback. As a result, the plasma concentration is usually not altered more than ± 15 percent by altering the amount of cholesterol in the diet, although individual responses differ markedly. A highly saturated fat diet increases blood cholesterol

concentration up to 15 to 25 %. Ingestion of diet containing highly unsaturated fatty acids usually depresses the blood cholesterol concentration to a slight moderate amount.^[14]

Author of classical text Ashtanga Hridayam, Vagbhata cautions that individuals with fleshy (Mamsala) and fatty constitution (Medura) and those with predominance of Kapha Dosha (BahuKapha), erratic digestion (Vishamagni) and those accustomed to intake of lipids (Sneha Satmya), are first posted for therapy producing dryness or absorption of fluids in the body (Rukshana), before administering lipids (Snehana) to prevent complications of internal oleation (Sneha Vyapad) including hypercholesterolaemia.^[15]

Discussion on Results and effect of therapy (Table no. 11 & 12)

In present clinical trial increased in the serum lipids was observed after the completion of Snehapana which is attributed to Vardhamana Sneha Matra administered to the patients. Though there is an increase in serum lipid levels after the Vamana Karma and Samsarjana Karma there is drastic decrement in the serum lipid level from the base line values of lipids of the patients which was observed in initial before treatment assessment. Secondly as proven in evidence based certain researches that ingestion of diet containing highly unsaturated fatty acids usually depresses the blood cholesterol concentration to a slight moderate amount it might be the secondary cause of drop down of serum lipid after the momentary period after the completion of Snehapana. It means though there is a significant apparent increase in the serum lipid levels at the end of completion of Snehapana at the end of treatment there is ultimately decrease in the proportion of serum lipid levels from the base line values before treatment.

Therefore it is very clear that there is no harm in administering the Snehapana in Vardhamana Matra to a patient as there is ultimate decrease in the all serum lipids. All these facts were revealed in present clinical study observations and results and data shows statistically significant results too ($p < 0.001$).

CONCLUSION

After Snehapana significant rise in the lipid levels occurred in both group i.e. swastha and patients but the levels are decreased after Vamana karma. So the rise in lipids is transient and brings to normal after samyak shodhana. This shows that the Sodhanartha Snehana is safer, if proper Vamana and Samsarjana Karma is performed afterwards. Simultaneously if Vamana is performed after proper Snehana, superior and safer Shuddhi is achieved. It means the success of therapy is dependent on Snehapana as well as Vamana Karma and at the end of therapy there is improvement in the serum lipid levels of patients even after administration of lipids in increasing order. If Snehapana is carried out with due consideration of Dosha, Dooshya, Srota, Agni,

Prakriti etc. then vardhamana Snehapana is safely carried out even in cholesterol sensitive era.

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