

## A CLINICAL STUDY OF CREAM BASED AND CURD BASED GO-GHRITA WITH SPECIAL REFERNCE TO LIPID PROFILE.

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### ABSTRACT

It is estimated that intake of Go-Ghrita is generally have the impact on lipid profile. But it is not true. Here a work is done to estimate the effect on Lipid Profile after oral intake of the Cream Based and Curd Based Go-Ghrita. In this trial work Go-Ghrita is given in two groups of volunteers of 15 in each group. In group A Curd Based Go-Ghrita is given in increasing dose of 10 gm, 20g and 30 g/day for total 60 days. In group B Cream Based Go-Ghrita is given in increasing dose of 10gm, 20g and 30 g/day for total 60 days. In group A there is increase in HDL level and decrease in Cholesterol, Triglyceride, L.D.L., V.L.D.L. level. In group B there is increase in Cholesterol,

Triglyceride, L.D.L., V.L.D.L. and decrease in HDL. The result showsthat that the Cow Ghrita prepared by Indigenous method or Curd Based Go-Ghrita is not the cause for hyperlipidaemia, but safe & also enhances life, health & immunity.

**KEYWORDS:** Hyperlipidaemia, Curd based Go- Ghrita, Cream based Go -Ghrita.

### INTRODUCTION

Every man instinctively aspires to live healthy and as long as possible. 'Ayurveda' the science of life too has the same aim. To maintain a healthy life Ahar, Swapna & Brahmcharya are three pivotal pillars.

According to Ayurveda, Ahar (diet) is the most important factor of life cycle, due to its important role in nutrition of 'Dhatus' & well maintenance of the body. Acharya Kashyapa says about Ahar that Ahar is the best medicine.

Sneha constitutes an important part of Ahar & plays a significant role in the proper nourishment of the body. Therefore from ancient time people prefer milk & Ghrita in their daily routine life. Ayurvedic Text are emphatically advocating the use of sneha as a part of food. In Ayurveda, the Ghrita stands first & Best in Sneha Varga Dravyas. It is very popular as diet & medicine used for Rasayana, Agnideepana, Medhya and Chakshushya etc. and for many other diseases. But today human remains under the misconception about Sneha. At present people are scared of the high incidence of Hyperlipidaemia, particularly due to intake of fatty foods, which also include 'Ghrita'. Therefore, people now a days usually try to avoid taking 'Ghrita' in their daily diet. But is Ghrita really cause for hyperlipidaemia?

Keeping this in view the present study has been planned entitled "A CLINICAL STUDY OF CREAM BASED AND CURD BASED GO-GRITHA WITH SPECIAL REFERNCE TO LIPID PROFILE".

### AIMS AND OBJECTIVE

1. The prime objective of the study is to compare cream based & curd based Go-ghrit with special reference to lipid profile.
2. Assessment of Lipid metabolism by curd based Go-ghrit to assess its property of 'Agni Vriddhi'.

### MATERIAL AND METHOD

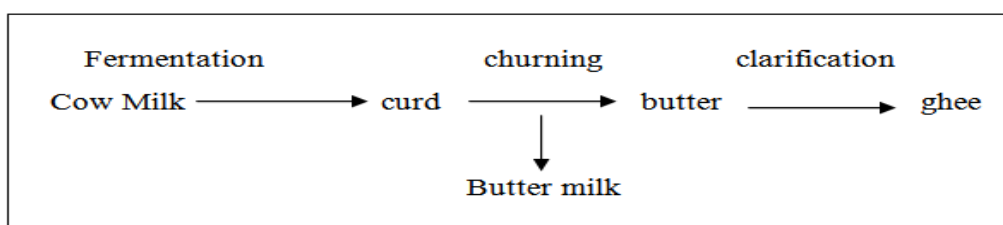
To achieve the above aims and objectives the following Ghrita's were selected for the present study they are –

1. Curd based Go-Ghrita (Dadhuyuttha Ghrita).
2. Cream based Ghrita (Ksheerottha Ghrita).

The above-mentioned formula one is prepared from curd by indigenous method, where as the formula two is prepared from cream by modern machine technology.

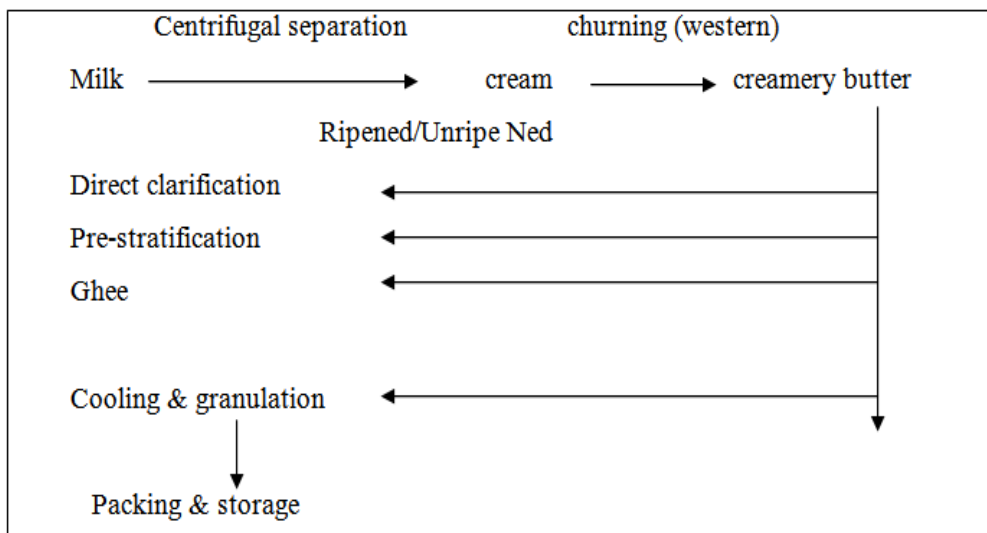
### Curd Based Gritha

#### Ghee making – The indigenous route.



### Cream Based Ghrita

Market sample of cream based ghee was used. The following method is adopted.



### Selection of volunteers

The clinical study has been done on the volunteers and they are requested to come to the O.P.D of Darvya Guna Deptt. Arogyashala, National Institute of Ayurveda, Jaipur, for the purpose of the registration for the clinical study. And thirty (30) apparently healthy volunteers were selected for the study. Detailed history was taken after registration of volunteers.

### Inclusion Criteria

1. Age – Above 40 Years.
2. Sex – Both sexes (male & female).
3. Lab. Investigation–
  - a. Normal value of Liver Function Test (L.F.T.) as S.G.O.T., S.G.P.T.
  - b. Normal value of Lipid Profile.

### Exclusion Criteria

1. Age – Volunteers below 40 yrs.
2. Disease:- Individuals suffering from any diagnosed disease or with recent history of major illness as:- cardiac disorder, Hypertension (H.T.N), Hyperlipidaemia & any liver disorder.
3. Drug – Individuals on any drug therapy or health promoters.
4. Abnormal laboratory findings: - as L.F.T. & Lipid Profile.

**GROUPS**

In order to evaluate the efficacy of Cream Based & Curd Based Go-Ghrita, the volunteers were divided in to two groups, having 15 volunteers each:-

Group A – Curd Based Go-Ghrita – 15 cases

(Dadhyyuttha Go-Ghrita).

Group B – Cream Based Ghee – 15 cases

(Ksheerottha Ghrita).

**Administration of Ghrita** – orally, with food twice a day in both group A & B.

**Dose, Duration AND Quantity**

Dose	Duration	Quantity
10 gm/day	Initial 10 days	100 gm
20 gm/ day	Next 20 days (i.e. day 11-30)	400 gm
30 gm/ day	Next 30 days (i.e. day 31-60)	900 gm

**Diet**

All the volunteers were advised not to take any extra fats in their diet. Sweets were also restricted.

**Parameters for Assessment****Subjective criteria**

Assessment points were considered on the basis of effects of Go-Ghrita described in Ayurvedic Texts as follows:-

- a. Kshudha (Appetite).
- b. Pipasa (Thirst).
- c. Jaranan Shakti (Digestive power).
- d. Prabha (Complexion).
- e. Mala Pravriti (Defecation).
- f. Sharir Bhar.

**Objective criteria**

Following laboratory investigations were done before and after trial for assessment of effect of Ghrita.

1. Hbgm %, TLC, DLC, ESR.
2. L.F.T. (S.G.O.T, S.G.P.T).

## 3. Lipid Profile.

- ◆ Cholesterol.
- ◆ Triglycerides.
- ◆ HDL.
- ◆ LDL.
- ◆ VLDL.

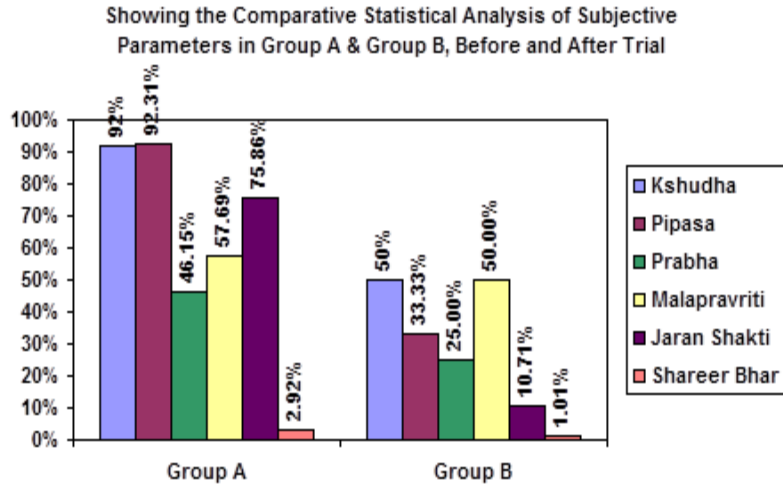
**CLINICAL OBSERVATIONS AND RESULTS**

**Overall Comparative Statistical Analysis on subjective and objective parameters in both group A & B, Before and After Trial.**

**Table 1: Showing the Comparative Statistical Analysis of Subjective Parameters in Group A & Group B Before and After Trial.**

Subjective	Gp	Mean		M D	M D %	S.D.	S.E.	T	P	Results
		B.T	A.T							
Kshudha	A	1.79	0.14	1.64	92.00%	0.84	0.23	7.30	< 0.001	H.S.
	B	1.40	0.70	0.70	50.00%	0.82	0.26	2.69	< 0.025	S.
Pipasa	A	1.44	0.11	1.33	92.31%	0.71	0.24	5.66	< 0.001	H.S.
	B	1.20	0.80	0.40	33.33%	0.55	0.24	1.63	< 0.1	I.S.
Prabha	A	2.00	1.08	0.92	46.15%	0.28	0.08	12.00	< 0.001	H.S.
	B	1.50	1.13	0.38	25.00%	0.74	0.26	1.43	< 0.1	I.S.
Malpravriti	A	1.86	0.79	1.07	57.69%	0.83	0.22	4.84	< 0.001	H.S.
	B	1.33	0.67	0.67	50.00%	0.82	0.33	2.00	< 0.1	I.S.
Jaran Shakti	A	1.93	0.47	1.47	75.86%	0.52	0.13	11.00	< 0.001	H.S.
	B	1.87	1.67	0.20	10.71%	0.68	0.17	1.15	< 0.1	I.S.
Shareer Bhar	A	55.07	55.23	0.17	0.3%	0.36	0.09	1.78	< 0.1	I.S.
	B	53.07	53.60	0.53	1.01%	0.88	0.23	2.36	< 0.025	S.

Above table depicts results in subjective parameter in Kshudha - Highly significant improvement in Group A volunteers at the level <0.001 where as Group B is showing only significant results at the level <0.025. Pipasa, Prabha, Malpravriti & Jaran Shakti - Highly significant improvement in Group A volunteers at the level <0.001 where as Group B is showing Insignificant results at the level <0.025. Shareer Bhar - above table shows Insignificant results in Group A volunteers at the level <0.1 where as Group B is showing significant results at the level <0.025.

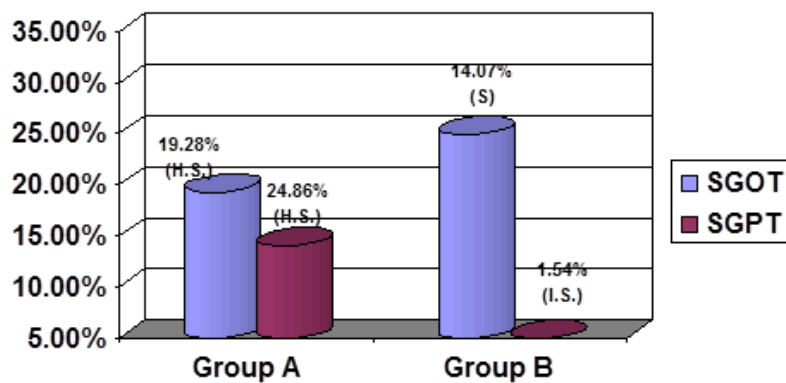


**Table 2: Showing the Comparative Statistical Analysis of Objective Parameters (SGOT & SGPT) in Group A & Group B, Before and After Trial.**

Objec-tive	Gp	Mean		MD	MD %	S.D.	S.E.	T	P	Results
		B.T	A.T							
SGOT	A	30.53	24.64	5.89	19.28%	5.17	1.33	4.41	< 0.001	H.S.
	B	27.74	31.64	3.90	14.07%	5.70	1.47	2.65	< 0.01	S
SGPT	A	27.38	20.58	6.81	24.86%	6.89	1.78	3.83	< 0.001	H.S.
	B	29.16	29.61	0.45	1.54%	8.37	2.16	0.21	< 0.5	I.S.

The Table depicts results in SGOT are Highly Significant at the level <0.001 in Group A, where in Group B results are significant at the level <0.01. The results of SGPT in Group A are Highly Significant at the level <0.001 but in Group B the changes are Insignificant at the level <0.5.

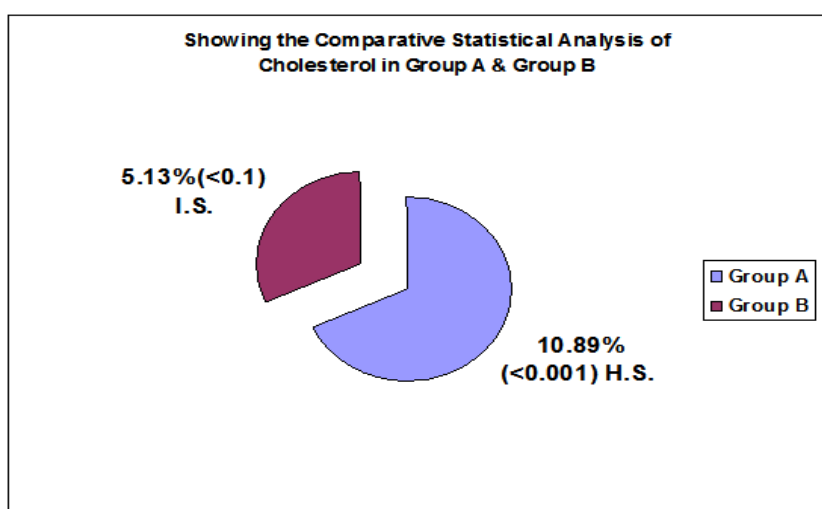
Showing the Comparative Statistical Analysis of Objective Parameters (SGOT & SGPT) in Group A & Group B Before and After Trial



**Table 3: Showing the Comparative Statistical Analysis of Cholesterol in Group A & Group B, Before and After Trial.**

Objective	Gp	Mean		MD	MD%	S.D.	S.E.	T	P	Results
		B.T	A.T							
Cholesterol	A	195.79	174.47	21.32	10.89%	17.85	4.61	4.63	< 0.001	H.S
	B	184.64	194.11	9.47	5.13%	18.71	4.83	1.96	< 0.1	I.S

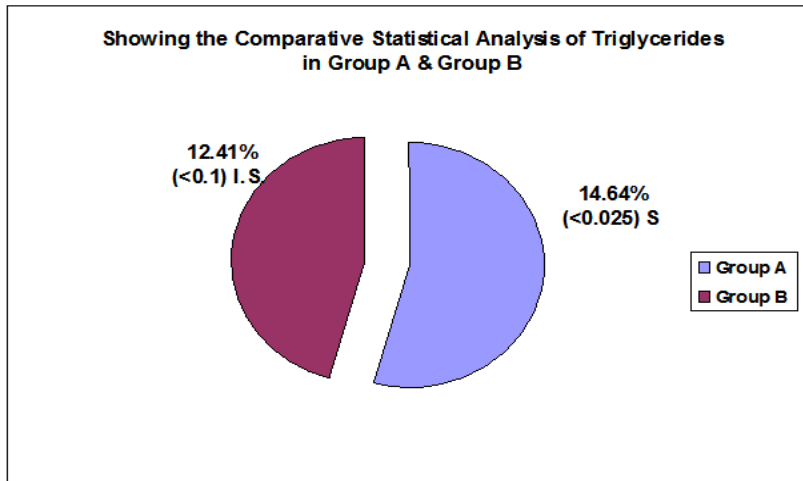
The Table reveals that In Group A results of Cholesterol are Highly significant at the level <0.001 where Group B is showing Insignificant results cholesterol at the level <0.1. **This interprets that serum cholesterol level of group A are less than group B and this is beneficial for human beings.**



**Table 4: Showing the Comparative Statistical Analysis of Triglycerides in Group A & Group B, Before and After Trial.**

Objective	Gp	Mean		MD	MD %	S.D.	S.E.	T	P	Results
		B.T	A.T							
Triglycerides	A	116.97	99.85	17.12	14.64%	25.56	6.60	2.59	< 0.025	S
	B	94.31	106.01	11.70	12.41%	27.88	7.20	1.63	< 0.1	I.S

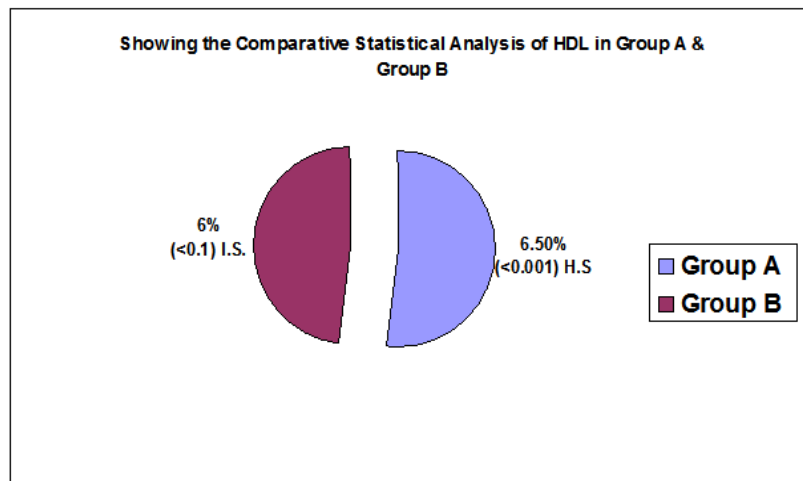
Above table depicts results in Triglycerides are significant in Group A at the level <0.025 where Group B is showing insignificant results at the level <0.1. **This interprets that serum Triglycerides level of group A are less than group B and this is beneficial for human beings.**



**Table 5: Showing the Comparative Statistical Analysis of HDL in Group A & Group B Before and After Trial.**

Objective	Gp	Mean		M D	M D %	S.D.	S.E.	T	P	Resu lts
		B.T	A.T							
HDL	A	61.31	65.30	3.99	6.50%	4.10	1.06	3.76	< 0.001	H.S
	B	57.38	53.93	3.44	6.00%	7.98	2.06	1.67	< 0.1	I.S

The Table shows Highly Significant result in H.D.L. of Group A Volunteers at the level < 0.001 but in Group B the results are Insignificant. **This interprets that serum HDL level of group A are more than group B and this is beneficial for human beings.**

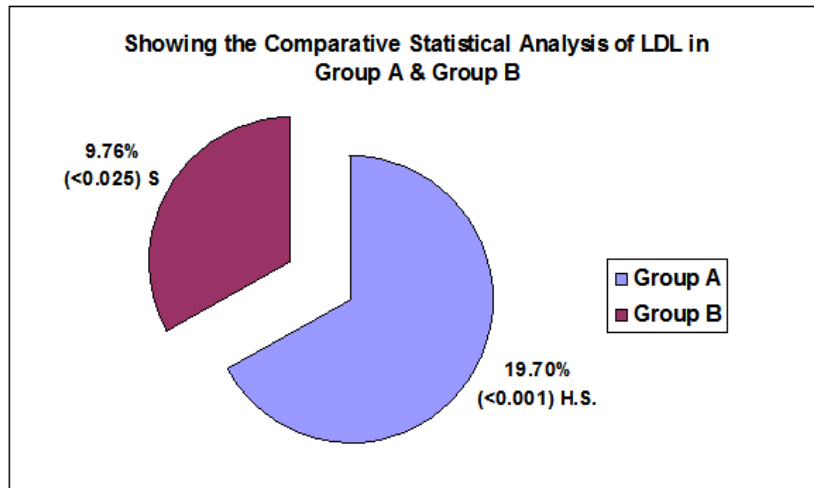


**Table 6: Showing the Comparative Statistical Analysis of LDL in Group A & Group B, Before and After Trial.**

Objective	Gp	Mean		M D	M D %	S.D.	S.E.	T	P	Results
		B.T	A.T							
LDL	A	111.09	89.20	21.88	19.70%	18.93	4.89	4.48	< 0.001	H.S
	B	108.40	118.98	10.58	9.76%	17.56	4.53	2.33	< 0.025	S



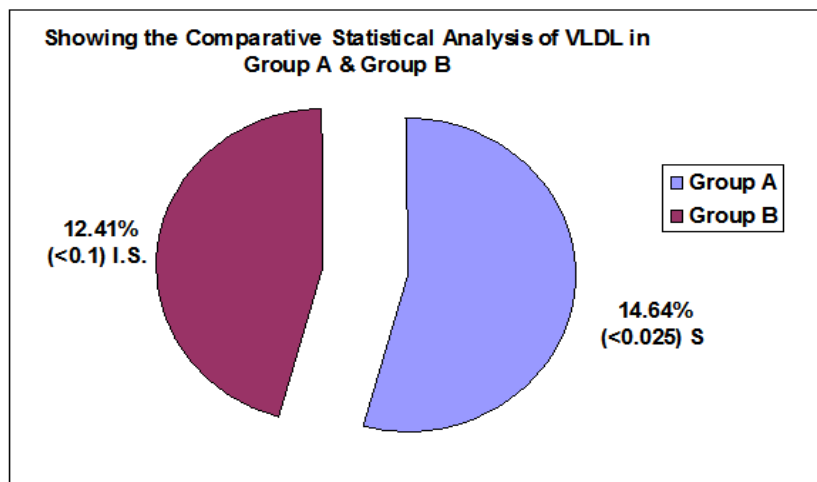
The table reveals that in Group A results are highly significant of LDL at the Level <0.001 where only significant in Group B at the level <0.025. **This interprets that serum LDL level of Group A are less than Group B and this is beneficial for human beings.**



**Table 7: Showing the Comparative Statistical Analysis of VLDL in Group A & Group B, Before and After Trial.**

Objective	Gp	Mean		M D	M D %	S.D.	S.E.	T	P	Resu lts
		B.T	A.T							
VLDL	A	23.39	19.97	3.42	14.64%	5.11	1.32	2.59	< 0.025	S
	B	18.86	21.20	2.34	12.41%	5.58	1.44	1.63	< 0.1	I.S

The Table shows significant results in VIDL of Group A Volunteers at the level <0.025 but in Group B the change is Insignificant at the level <0.1. **This interprets that serum VLDL level of Group A are less than Group B and this is beneficial for human beings.**



**Overall Comparative Results in subjective & objective parameters in both group A & B.**

**Results in subjective parameters**

Sub. Para Meter	Group A		Group B	
	% of increase or decrease	Beneficial or Non Beneficial	% of increase or decrease	Beneficial or Non Beneficial
Kshudha	Increased 92.00%	Beneficial	Increased 50.00%	Beneficial
Pipasa	Decreased 92.31%	Beneficial	Decreased 33.33%	Beneficial
Prabha	Increased 46.15%	Beneficial	Increased 25.00%	Beneficial
Malpravriti	Increased 57.69%	Beneficial	Increased 50.00%	Beneficial
Jaran Shakti	Increased 75.86%	Beneficial	Increased 10.71%	Beneficial
Sharirbhar	Decreased 2.90%	Beneficial	Increased 1.01%	Non Beneficial

**Results in Objective parameters**

Obj. Para Meter	Group A		Group B	
	% of increase or decrease	Beneficial or Non Beneficial	% of increase or decrease	Beneficial or Non Beneficial
SGOT	Decreased 19.28%	Beneficial	Increased 14.07%	Non Beneficial
SGPT	Decreased 6.89%	Beneficial	Increased 1.50%	Non Beneficial

<b>Cholesterol (140-250 MG/DL)</b>	<b>Decreased 10.89%</b>	<b>Beneficial</b>	<b>Increased 5.13%</b>	<b>Non Beneficial</b>
<b>Triglycerides (10-180 MG/DL)</b>	<b>Decreased 14.64%</b>	<b>Beneficial</b>	<b>Increased 12.41%</b>	<b>Non Beneficial</b>
<b>HDL (&gt;40 MG/DL)</b>	<b>Increased 6.50%</b>	<b>Beneficial</b>	<b>Decreased 6.00%</b>	<b>Non Beneficial</b>
<b>LDL (&gt;130 MG/DL)</b>	<b>Decreased 19.70%</b>	<b>Beneficial</b>	<b>Increased 9.76%</b>	<b>Non Beneficial</b>
<b>VLDL (&lt;160 MG/DL)</b>	<b>Decreased 14.64%</b>	<b>Beneficial</b>	<b>Increased 12.41%</b>	<b>Non Beneficial</b>

**CONCLUSION**

- The study was aimed to prove the misconception and controversy about the Ghrita that the consumption of Ghrita may cause Hyperlipidaemia. By this study it is crystal clear that only Cow Ghrita made by indigenous traditional method (curd based Ghrita) is not responsible for Hyperlipidaemia, so it can be considered as an option of Ghrita in every age and every day of life.
- The Ghrita has Agni vardhan qualities as per Chakrapani & it increases agni & affects the metabolic activity because of this Curd Based Ghrita decreases amount of fat in the body and preventing Hyperlipidaemia. Taking this hypothetical mode of action in view, we conclude that the Ghrita prepared by indigenous method is safe & does not increase lipid profile. & it is an essential part of food, which is responsible for Snehan Karma of the body and thus, prevents from Rukshan Karma. This has been observed in this study that

the Ghrita commonly available in the market does not fulfill all the Karma of Ghrita described in all the Ayurvedic Texts.

- During the study no other complication was observed in both groups. Thus, this study proves that the cow Ghrita prepared by Indigenous method is not the cause for hyperlipidaemia, but safe & also enhances life, health & immunity. So, it should be made a part of food, which does not create any hazards in human body, if taken according to Ayurvedic Principles. That's why Ayurveda suggest regular intake of Ghrita for maintenance & promotion of health.

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