

**KSHEEROTHA AND DADHYOTHA GHRITA – A SCIENTIFIC EVALUATION ON
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ABSTRACT

In *Ayurveda*, acharyas have quoted different dosage forms for prevention and curative purposes. *Sneha kalpana*, being one among them plays a vital role in treating various diseases. *Ghrita (ghee)* is said to be *Ajanmasatmya* and considered as best among *Chatu-sneha*. Action of *Ghrita (ghee)* in *kalpanas* depends on its source and its preparation, which is clearly mentioned in the classics. Two different methods of *Ghrita (ghee)* was prepared out of *Ksheera* (milk) and *Dadhi* (curd). These were analyzed for their Organoleptic and Analytical parameters. Values of *Ksheerota* and *Dadhyota Ghrita* are Acid value-3.86, 5.89, Iodine value -32.25, 33.34, Saponification value 233.09, 233.51, free fatty acids 1.93, 2.94, Peroxide value- Nil in both samples. *Dadyotha Ghrita* holds well in dietary regimen as well as therapeutic aspects. The method of preparation of Ghee in market is similar as that of *Ksheerota Ghrita*, So Selection of *Ghrita (ghee)* plays a major role in preparing formulations with respect to specific conditions.

KEYWORDS: *Snehakalpana, Ksheerota Ghrita, Dadhyota Ghrita.***INTRODUCTION**

The testimonial, “*sneha saro ayam purushaha praanacha sneha bhuyishtaaha sneha saadhyaascha bhavanti*”^[1] opines that, the whole body is essence of *sneha*, the vital activities (metabolism) are based on *snehamsha* and this can be achieved through *sneha dravyas*. Ghee is termed as *Ghrita* in Sanskrit. Being one among *Chatusneha*,^[2] *Ghrita (ghee)* is popularly known to every individual since ages. It is said to be *Ajanma sathmya*,^[3] and it is considered as building blocks of structural and functional unit of living organisms. *Ghrita (ghee)* is chief form of cooking ingredient in any Indian regional cuisines, also used medicinally and plays a part in rituals. According to (FSSR) Food Safety and Standards Regulations, Ghee means the pure clarified fat derived solely from milk or curd or from desi (cooking) butter or from cream to which no coloring matter or preservative has been added. *Ghrita (ghee)* is traditional milk products of India and was produced as far back as 1500 BC. Mythological stories,^[4] say that Prajapathi created *Ghrita (ghee)* by rubbing his hands together and poured it on fire to engender his progeny. According to

Vedic period, *Ghrita (ghee)* is hidden in milk, like the divine lord in creation and *Ghrita (ghee)* is most essential of all foods. In *Shathapad brahmana* they were using specific words for *Ghrita (ghee)* as *Ajya, Ghrita (ghee), and Ayuth* etc. Different sources of *Ghrita (ghee)* and its properties mentioned in *Ayurveda treatise*,^[5] they are – *GoGhrita, Mahisha Ghrita, Aja Ghrita, Aavika Ghrita, Edaka Ghrita, Aoustra Ghrita, Ashva Ghrita, Naari Ghrita, Hastini Ghrita, and Vadava Ghrita*. Out of these *GoGhrita* is said to be superior and *Aavika* is inferior.^[6] Two methods of preparations,^[7] i.e. *Ksheerota Ghrita* (Ghee obtaining from *ksheera*) and *Dadhyota Ghrita* (Ghee obtaining from *Dadhi*) are mentioned which differs in their *Guna* (qualities) & *Karma* (Action)^[8] Here, in this study both forms of *Ghrita (ghee)* were prepared and their Physico-chemical properties were analyzed. *Nirukti: Jagharthi dipyategharati sinchati iti vaa*”^[9] means sprinkled or shine *Pakwanavaneetam*” product obtained by *paka* of *navaneeta*. *Ganas and vargas- Ghrita(ghee)* is included in *Kshira varga (Brihatrayees, Rajanighantu & Dravyaguna sangraha), Suvarnadi varga (Dhanwantari*

nighantu), Parishista prakarana (Sodhala nighantu), Ghrita(ghee) varga (Madhava Dravya guna & Bhavaprakasha nighantu), Paniya varga (madanapala nighantu), Drava varga (kaiyadeva nighantu), Viprakirna Prakarana (Ashtanga nighantu), Bhaktadi varga (Saraswathi nighantu).

Synonyms of Ghrita (ghee)^[10]

- **Aajya** –“yaagakriyasadhanam”- which is used for offerings
- **Havishya** –“havishe hitam”-that which is fit for offering by fire to the deities
- **Havi** - “hooyate anena iti havi”– clarified butter, an intended oblation, article to be offered
- **Sarpi**- “sarpati iti sarpi” that which flows, melted butter
- **Homya** – “homaaya hitam”- an article of offering to deities by fire
- **Devapriya**-“devanam priya”- liked by gods
- **Navaneetajam**-“navaneetath kayati prakashate iti”- product obtained from butter
- **Abhidhara**- “abhi gharyate samanthat vahnou sichyate”- which is offered to the fire
- **Amrita**- it acts as a nectar
- **Jeevaniya**-good vitalizer
- **Pavitra**- “pooyate anena iti” - thesaurus
- **Ojaskara**-that which promotes immunity and vitality

Table 1: Showing observations of Ksheerotha and Dadyotha Ghrita.

Sl.no	Observation	Ksheerotha	Dadyotha
1.	Quantity of milk	1 litre	1 litre
2.	Duration of churning	30 mins	25 mins
3.	Weight of Navanita	33 grams	52 grams
4.	Time taken to prepare Ghrita(ghee)	2 mins	3 mins
5.	Weight of obtained Ghrita(ghee)	20 grams	33 grams
7.	Quantity of Navaneeta obtained in %	33%	52%
8	Quantity of Ghrita(ghee) obtained in %	39.39%	36.53%

Table 2: Showing Analytical parameters of Ksheerotha and Dadyotha Ghrita GhritaGhrita (ghee).

Sl.no	Test	Ksheerotha	Dadyotha
1.	Form	No granules	Granules like
2.	Colour	Yellowish	Yellowish
3.	Acid value	3.86	5.89
4.	Saponification value	233.09	233.51
5.	Iodine value	30.34	32.25
6.	Specific gravity	0.910	0.912
7.	Refractive index	1.458	1.459
8.	Loss on drying	0.37%	0.51%
9.	Peroxide value	Nil	Nil
10.	Rancidity	Observed	Not observed
11.	Free fatty acid	1.93	2.94
12.	Total fat content	99.63	99.49

MATERIALS AND METHODS

Milk was procured from local dairy, Harohalli, Ramanagara & Analytical test was carried out in Sriveda Sattva, Udayapura, and Bangalore.

Method: *Ksheerotha Ghrita* – 1 Litre of Milk was taken in a clean stainless steel vessel and boiled over *mandagni* for 30 minutes and kept for self-cooling. Later, cream was churned along with milk using wooden churner for 30 minutes. Thus formed butter was collected and heated over mild fire for 2-3 minutes to obtain *Ksheerotha Ghrita*.

Dadhyotha Ghrita: 1 Litre of Milk was taken in a clean stainless steel vessel and boiled over *mandagni* for 30 minutes and kept for self-cooling. Little amount of curd was added and kept overnight. Then this curd was churned for 25 minutes to obtain butter. Thus formed butter was collected and heated over mild fire for 2-3 minutes to obtain *Dadhyotha Ghrita*.

Table 3: Showing properties of *Ksheerotha* and *Dadyotha Ghritha*.^[11]

	<i>Dadyothita Ghritha</i>	<i>Ksheerothita Ghritha</i>	<i>Hayangavina Ghritha</i>
Rasa	<i>Madhura</i>	<i>Madhura</i>	<i>Madhura</i>
Guna	<i>Guru, Snigdha, Alpaabhishtyanda</i>	<i>Guru, Snigdha</i>	<i>Guru, Snigdha</i>
Virya	<i>Sheeta</i>	<i>Atisheeta</i>	<i>Sheeta</i>
Vipaka	<i>Madhura</i>	<i>Madhura</i>	<i>Madhura</i>
Doshagnatha	<i>Vata Pitta</i>	<i>Pitta Vata</i>	<i>Vatapitta</i>
Karma	<i>Balya, Medhya, Ojaskara, Lavanya Kara Chakshushya, Hridya, Dipana, Shukrala, Ayushya, Alakshmihara, Jaranasha, Swarya, Kantivardhaka</i>	<i>Grahi, Netra roga hara</i>	<i>Balya, Dipana, Chakshushya, Dipana, Rasayana, Vrishya, Ruchikara</i>
Rogagnatha	<i>Kshata, Udavarta, Unmada, Apasmara Anaha, Shula, Vrana Shosha, Kshina, Visarpa</i>	<i>Daha, Murcha, Mada, Raktapitta, Netraroga</i>	<i>Jwara</i>

DISCUSSION

Benefits of *Ghritha* (*ghee*) is known since ages as a best cuisine, as a therapeutic ingredient and used in many religious ceremonies. In *Ayurveda* prime concern is been given to *Ghritha* (*ghee*) and its uses. But selection of *Ghritha* (*ghee*) is most important as the properties of *Ghritha* (*ghee*) vary with the preparation method. *Ksheerotha Ghritha* is *Atyanta sheetala*, *Grahi* and used in *netra rogas* whereas, *Dadyotha Ghritha* is less *sheeta* compared to *Ksheerotha Ghritha* possess *Alpabhishtyandi* property, considered as *Alakshmi hara*, *Ayushya*, *Balya*, *Medhya*, *Ojaskara*, *Lavanya Kara*, *Chakshushya*, *Hridya*, *Dipana*, *Shukrala*. Analytically, Acid value of *Ksheerotha Ghritha* is 3.86 and *Dadyotha Ghritha* is 5.89 which tells *Ksheerotha Ghritha* is more stable than *Dadyotha*, Saponification value of *ksheerotha* is 233.09 and *Dadyotha* is 233.51 which might be interpreted as *Dadyotha Ghritha* has more capacity to reduce bad cholesterol; Iodine value of *Ksheerotha* is 30.34 and *Dadyotha Ghritha* is 32.25 which says higher the iodine number, the more are the unsaturated bonds present in fat. Unsaturated fat supplementation increases the total dietary energy intake to the recommended levels, and it has no diverse impact on the blood lipids. It also improves nutritional value and reduces systemic inflammation. High value indicates that fats are rich source of PUFAS that possess health benefits such as regulating blood cholesterol levels.^[12] *Karamaradi s nirmala et.al.*^[13] proven 5% Curd ghee was found to be better than the 5% milk cream ghee. 5% Curd ghee has shown to lower total cholesterol, LDL, VLDL, Triglycerides and cholesterol ratio. It is seen that 5 different ghee preparations. In Present scenario, available market ghee are produced by different cream separation methods from milk which might be considered as *Ksheerotha Ghritha*. Though *Dadyotha Ghritha* possesses better qualities with respect to cholesterol level, industries are producing ghee by using different cream separation methods directly from milk because of easy method of preparation and more stability of *Ksheerotha Ghritha*.

CONCLUSION

The importance of *Ghritha* (*ghee*) is well understood, mere *Ghritha* (*ghee*) can meet all dietary needs of the body. Our Acharyas have also emphasized need of *Ghritha* (*ghee*) sevana in daily dietary regimen. *Dadyotha Ghritha* holds good for dietary regimen as well as therapeutic aspects. The method of preparation of Ghee in market is similar as that of *Ksheerotha Ghritha*, So *Vaidya* should be aware of selecting *Ghritha* (*ghee*) as it plays a major role in preparing formulations with respect to specific conditions.

REFERENCES

1. Acharya trikamji yadavji, Kavyatirtha Acharya Ram Narayan (Ed), Sushruta Samhitha of Sushruta with Nibandha Sangraha commentary; Varanasi, Chaukambha orientalia, 2009; 507.
2. Acharya trikamji yadavji, (Ed), Charaka Samhitha of Agnivesha with Ayurveda Dipika Commentary, Varanasi, Chaukambha Orientalia, 2011; 21.
3. Bishagaacharya Paraadakara Shastri Sadhiva Hari Pandit (Ed); Ashtanga Hrudaya of Vagbhata with Sarvaga Sundara and Ayurveda Rasayana Commentary; Varanasi; Chaukambha Surabharathi Prakashana, 2010; 243.
4. Ashok Kumar B N, Shiv Om Dixit, Sanjaykumar B Patel. A Critical Review On Go Ghritha, shatha Diuta Ghritha And Sahasra Dhouta Ghritha; J Ayurveda Integr Med Sci., 2016; 3: 117-123. <http://dx.doi.org/10.21760/jaims.v1i3.4427J>; 118.
5. Bhavaprakasha of Bhavamishra; translation by Prof. K.R Srikantha Murty; Vol1; Varanasi, Chowkamba Krishnadas Academy, 2004; 470-471.
6. Bishagaacharya Paraadakara Shastri Sadhiva Hari Pandit (Ed); Ashtanga Hrudaya of Vagbhata with Sarvaga Sundara and Ayurveda Rasayana Commentary; Varanasi; Chaukambha Surabharathi Prakashana, 2010; 74.
7. Acharya trikamji yadavji, Kavyatirtha Acharya Ram Narayan (Ed), Sushruta Samhitha of Sushruta with Nibandha Sangraha commentary; Varanasi, Chaukambha orientalia, 2009; 205.

8. Bhavaprakasha of Bhavamishra; translation by Prof. K.R Srikantha Murty; Vol1; Varanasi, Chowkamba Krishnadas Academy, 2004; 470-471.
9. RajaRadhakantaDev.ShabdaKalpadruma.Vol.1.ED/3rd.Delhi:Naga Publishers, 1988; 395.
10. RajaRadhakantaDev.ShabdaKalpadruma.Vol.1.ED/3rd.Delhi:Naga Publishers, 1988; 395.
11. RajaRadhakantaDev.ShabdaKalpadruma.Vol.1.ED/3rd.Delhi:Naga Publishers, 1988; 395.
12. Acharya trikamji yadavji, Kavyatirtha Acharya Ram Narayan (Ed), Sushrutha Samhitha of Sushruta with Nibandha Sangraha commentary; Varanasi, Chaukambha orientalia, 2009; 204-205.
<https://www.health.harvard.edu/heart-health/understanding-the-unsaturated-fats>.
13. https://www.researchgate.net/publication/317281238_EFFECT_OF_TWO_TYPES_OF_DIETARY_GHEE_ON_SERUM_LIPID_LEVELS_IN_RATS.