

REVIEW ARTICLE

Role of *Goghrita* in Geriatrics

Rahul Anand^{1*}, Vandana Yadav², Meera K. Bhojani³

¹Ph. D. Scholar, Department of Kriya Sharira, All India Institute of Ayurveda, New Delhi, India.

²M. D. Scholar, Department of Kriya Sharira, All India Institute of Ayurveda, New Delhi, India.

³Associate Professor, Department of Kriya Sharira, All India Institute of Ayurveda, New Delhi, India.

ARTICLE INFO

Article history:

Received on: 7-11-2023

Accepted on: 18-12-2023

Published on: 31-12-2023

Key words:

Docosahexaenoic acid,
Geriatric disorders,
Goghrita

ABSTRACT

Introduction: A major proportion of old age population if falls prey to geriatric disorders will not only decrease the quality of life of elderly but will also offer a financial burden on treatment of geriatric disorders on the country. *Ghrta* is best among all fats and *goghrita* is best among all *ghrita*. *Goghrita* due to its unctuous property, higher smoking point, feature of *sanskar*, components such as mono unsaturated fatty acids, poly unsaturated fatty acids, oleic acid, and docosahexaenoic acid prevents and treats geriatric disorders.

Methods: Conceptual review of ancient *Ayurveda* texts, texts of contemporary science including pharmacology, medicine, physiology, pathology and medicine, articles, and journals.

Results: *Goghrita*, due to its specific features, has capability to prevent and treat geriatric disorders. *Goghrita* prepared by traditional method is better as it contains more docosahexaenoic acid and omega 3 fatty acids.

Discussion: Physiological elevation of *vata dosha* is found in old age. *Vata* regulates nervous system and alleviation of *vata dosha* may result in geriatric disorders, especially of neurological origin. *Goghrita* pacifies *vata* due to its unctuous property and is thus helpful in treating and preventing geriatric disorders.

Conclusion: *Goghrita* pacifies *vata* due to its unctuous property and thus may prevent and treat geriatric disorders.

1. INTRODUCTION

Ghrta is a type of clarified butter. *Ghrta* promotes memory, intelligence, *agni* (digestive capacity), semen, *ojas* (the essence of seven *dhatu*s that is vital for life), *kapha* (one of biological humors other than *vata* and *pitta*), and *medas* (the fourth *dhatu* among seven *dhatu*s of the body, whose function is to provide unctuousness), alleviates *vata* and *pitta*, poison, insanity, phthisis, inauspiciousness, and fever. It is best of all fats, is cold, has *madhura* (sweat) *ras*, *madhura vipaka*, has thousands potentialities, and so, if used properly according to prescribed methods, exerts thousand types of action.^[1] No other fat receives the property of *sanskara* (processing with drugs) as *ghrita* and that is why it is regarded as best of all the fats.^[2] *Goghrita* is the best among all the *ghritas*.^[3] *Goghrita* is sweet in final taste after digestion, is cool, alleviates *vata* and *pitta*, and eliminates poison, is foremost among those things which are beneficial for eyes and is strengthening.^[4]

Corresponding Author:

Rahul Anand, PhD Scholar, Department of Kriya Sharir, All India Institute of Ayurveda, New Delhi,
Email: rahulanand3231@gmail.com

Description of *goghrita* can be found from ancient historical texts. In Mahabharata, it is written that Kauravas (hundred sons of King Dhritarashtra and his wife Gandhari) were born from pots of *goghrita*.^[5] *Goghrita* is one of the mandatory ingredients to be used with food in some states of India. It is used in cooking and for the preparation of certain ayurveda medicines. *Goghrita* is also used in certain religious acts as cow is being considered a sacred animal in Indian subcontinent. *Goghrita* is the one of the important ingredients of *Panchakarma* (an ancient Ayurveda detoxification and rejuvenation therapy that aims to restore balance in the body, mind, and spirit), ingredient of many Ayurveda formulations, and an effective *anupana* (liquid consumed soon after food or medicine).

2. ETYMOLOGY

The word *ghee* comes from Sanskrit: (*ghṛta*-, IPA: [gʱɽte]) “clarified butter,” from *ghṛ*-, “to sprinkle”^[6] cognate with the Ancient Greek word *χριστός* (*khristós*, “rubbed, anointed”), from which derives

the English word Christ.^[7] The common name of ghee in different language is given in Table 1.

3. PREPARATION

Goghrita is prepared mainly by two methods, first being the traditional and second being direct cream method. In traditional method, cow milk is boiled and cooled at room temperature. Some curd is added as starter culture, mixed, and incubated at room temperature. Curd formed is manually churned until butter float on top of the buttermilk. Butter is washed using water to remove residual buttermilk and then heated in stainless steel container till it gets clarified. Clear liquid *ghrita* is then obtained. In direct cream method, cream is separated from whole cow milk and heated in stainless steel pan and clear molten *ghrita* is then obtained. Thus, *ghrita* differs from clarified butter in perspective of preparation: the process of preparation of clarified butter is completed once the water is evaporated and fat gets separated from milk solids, but *ghrita* is prepared by simmering the clarified butter, resulting in nutty taste and aromatic smell of *ghrita*.^[8] There is not much difference in properties of *ghrita* prepared by both traditional and direct cream method, but the *ghrita* prepared from traditional method has greater docosahexaenoic acid, Omega-3 long-chain polyunsaturated fatty acids content as compared to *ghrita* prepared by direct cream method.^[9] *Ghrita* is fairly shelf-stable largely because of its low moisture content and possible anti-oxidative properties.

4. GOGHRITA: BOON TO ELDERLY

Vridhhi of *vata dosha* (increase in physiological limits of *vata dosha*) occurs in old age.^[10] *Vata dosha* is responsible for regulating physiological functions of body by regulating nervous system. An imbalance in *vata dosha* may lead to geriatric disorders. *Goghrita*, due to its unctuousness property,^[2] pacifies *vata* and thus may work efficiently in the treatment and prevention of geriatric disorders.

Cow milk is composed of saturated fatty acids, particularly C14:0 and C16:0, and small amounts of monounsaturated fatty acids (MUFA), polyunsaturated fatty acids (PUFA), and omega-3 fatty acids.^[11] The *ghrita* prepared from cow milk has the components of its parent product. Broadly, *ghrita* has 99–99.5% fats, around 1% moisture, unsaponifiable matter, charred casein, carotene, and fat-soluble vitamins.^[12] Omega-3 long-chain polyunsaturated fatty acid is a major component of retinal and brain tissues. Studies have found that MUFA and PUFA are protective against age-related cognitive decline.^[13]

Goghrita is rich in Docosahexaenoic acid, particularly the one prepared by traditional method. The high DHA content may be due possibly due to rich microbial flora used in starter curd culture. DHA along with fat-soluble vitamins, anti-oxidants, and conjugated linoleic acid could be responsible for health benefits of *goghrita*. Studies have found that docosahexaenoic acid reduces the risk of diseases like heart attack, cancer, insulin resistance, arthritis,^[14] and attention deficit hyperactivity disorder.^[15]

Milk though healthy may harm people suffering with lactose intolerance. *Goghrita* contains negligible amounts of lactose and casein and is therefore acceptable to most people who have a lactose intolerance or milk allergy.^[16,17]

Goghrita contains Vitamin A and its quantity found in *Goghrita* is approximately ranged from 315 to 375 µg/100 g.^[18] Vitamin A may have anticancer effects and protect against age-associated conditions such as macular degeneration.^[19]

Oleic acid is a component of *goghrita*. Daily consumption of fat, especially in oleic acid, has a beneficial effect against cognitive decline in elderly individuals.^[20]

The smoke point of *goghrita* (temperature at which the molecules of *goghrita* begin to break) is higher than normal cooking temperatures of approximately 200° Celcius. Thus, this higher smoke point prevents breaking of molecules of *goghrita* while cooking, making *goghrita* an ideal fat for deep frying.^[21]

5. CONCLUSION

Physiological elevation of *vata dosha* occurs in old age. Geriatric disorders may be due to alleviation of *vata dosha*. *Goghrita* pacifies *vata* due to its unctuous property and thus may prevent and treat geriatric disorders. *Goghrita* can be prepared by traditional and direct cream method. However, *Goghrita* prepared by traditional method is better as it contains more docosahexaenoic acid and omega 3 fatty acids. Moreover, the components of *ghrita* such as MUFA, PUFA, oleic acid, and Vitamin A make it one of the efficient preventive and protective tool against geriatric disorders.

6. ACKNOWLEDGMENTS

None.

7. AUTHORS' CONTRIBUTIONS

All the authors contributed equally in the design and execution of the article.

8. FUNDING

Nil.

9. ETHICAL APPROVALS

This study not required ethical clearance as it is review study.

10. CONFLICTS OF INTEREST

Nil.

11. DATA AVAILABILITY

This is an original manuscript and all data are available for only review purposes from principal investigators.

12. PUBLISHERS NOTE

This journal remains neutral with regard to jurisdictional claims in published institutional affiliation.

REFERENCES

1. Shastri SN. Vidyotini Commentary, Charak Samhita. 2015th ed., Vol. 1. Sutra Sthana - 27/231-232. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. p. 552.
2. Shastri SN. Vidyotini I Commentary. Charak Samhita. 2015th ed., Vol. 1. Nidan Sthana - 1/39-40. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. p. 617.
3. Shastri SN. Vidyotini Commentary. Charak Samhita. 2015th ed., Vol. 1. Sutra Sthana - 25/38. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. p. 466.
4. Shastri AD, editor. Commentary Ayurveda Tattva Sandipika of

- Ambikadutta Shastri on Sushruta Samhita, Sutra Sthana; Aupadravika Adhyaya. 1st ed., Ch. 45. Verse 97. Varanasi: Chaukhamba Sanskrit Sansthan; 2021. p. 228.
5. Fitzgerald JL, Adrianus J, Buitenen B. The Mahabharata. Book 11: The Book of the Women. Book 12. Part 1. Vol. 7. Chicago: University of Chicago Press; 2003. p. 613.
 6. Buck CD. A Dictionary of Selected Synonyms in the Principal Indo-European Languages. Chicago: University of Chicago Press; 1949. p. 399.
 7. Kakhia TI. Encyclopedia of Oils and Fats. p. 194-5.
 8. Jaffrey M. Madhur Jaffrey's Indian Cooking. London: BBC Books; 1982. p. 211.
 9. Joshi KS. Docosahexaenoic acid content is significantly higher in ghruta prepared by traditional Ayurvedic method. *J Ayurveda Integr Med* 2014;5:85-8.
 10. Gupt AD. Vidyotini Hindi Commentary. Astang Hridaya. Sutra Sthana - 1/8. 2009th ed. Varanasi: Chaukhamba Prakashan; 2001. p. 56.
 11. Kennelly JJ. The fatty acid composition of milk fat as influenced by feeding oilseeds. *Anim Feed Sci Technol* 1996;60:137-52.
 12. Srinivasan MR, Anantakrishnan CP. Milk products of India. New Delhi: ICAR; 1964.
 13. Solfrizzi V, Colacicco AM, D'Introno A, Capurso C, Torres F, Rizzo C, *et al.* Dietary intake of unsaturated fatty acids and age-related cognitive decline: A 8.5-year follow-up of the Italian Longitudinal Study on Aging. *Neurobiol Aging* 2006;27:1694-704.
 14. Simopoulos AP. The importance of the omega-6/omega-3 fatty acid ratio in cardiovascular disease and other chronic diseases. *Exp Biol Med* (Maywood) 2008;233:674-88.
 15. Joshi KS, Lad S, Kale M, Pandit A, Mahadik S, Patwardhan B. Supplementation with flax oil and vitamin C improves the outcome of Attention Deficit Hyperactivity Disorder (ADHD). *Prostaglandins Leukot Essent Fatty Acids* 2006;74:17-21.
 16. Heid M. Is Ghee Healthy? Here's What the Science Says. *Time*. Available from: <https://time.com/5571810/is-ghee-healthy/> [Last accessed on 2021 Apr 10].
 17. Abarbanel A. What is Ghee, the Clarified Butter We Could Eat by the Spoon? United States: Bon Appétit. Available from: <https://www.bonappetit.com/story/what-is-ghee> [Last accessed on 2021 Apr 10].
 18. Al-Khalifah A, Al-Kahtani H. Composition of ghee (Samn Barri's) from cow's and sheep's milk. *Food Chem* 1993;46:373-5.
 19. Ward BJ. Retinol (vitamin A) supplements in the elderly. *Drugs Aging* 1996;9:48-59.
 20. Sakurai K, Shen C, Shiraishi I, Inamura N, Hisatsune T. Consumption of oleic acid on the preservation of cognitive functions in Japanese elderly individuals. *Nutrients* 2021;13:284.
 21. What are the Advantages and Disadvantages of Butter and Ghee when it Comes to Cooking? Available from: <https://whfoods.com> [Last accessed on 2015 May 11].

How to cite this article:

Anand R, Yadav V, Bhojani MK. Role of *Goghrita* in Geriatrics. *IRJAY*. [online] 2023;6(11):94-97.

Available from: <https://irjay.com>

DOI link- <https://doi.org/10.47223/IRJAY.2023.61217>

Table 1: Common name of *Ghrita* in different languages

Languages	Name
Sanskrit	Ghruta
Hindi and North India	Ghee
South Indian	Neyi, nai
Arabic	Samna, semna, samn
Persian	Roghan
Spanish	Mantequilla fundida
English	Butteroil, butterfat, clarified butter, dehydrated butter, dry butterfat
French	Beurre fondu, graisse de beurre
German	Butteroeel, butterschamelz, floess butter
Italian	Buro fuso, burro cotto, burro colato