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Critical review on various types of *Dadhi* with reference to its method of preparation

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ABSTRACT

Ayurved is the science for the preventive, promotive and curative aspects in health system. *Dadhi* is said as *Dugdha Vikruti* means milk product. *Dadhi* is one of the oldest Indian fermented milk products and may be considered the western equivalent to yoghurt. *Acharya Sushruta* has mentioned 7 categories of *Dadhi* (Curd). It is prepared by either method using acidic substances like lemon juice, vinegar or homemade by transferring a spoonful of the previous batch of *Dadhi* to *Shrutaksheer* (heated milk) at room temperature. It absorbs water from intestines hence also having properties as *Grahi*. By the virtue of this property, it is widely used to treat diarrhoea and dysentery. It causes heaviness when used in excess and may cause constipation. It mitigates *Vatadosha*, increases *Kapha* and *Pitta*. Consumption of curd accelerates digestion (*Agni*), stimulates taste buds and acts as an appetizer. Modern science has focused on preparation curd from milk. It is obtained by process of coagulation of milk (Curdling).

Key words: *Dadhi*, *Yoghurt*, *Mandakdadhi*, *Jatdadhi*, *Grahi*.

INTRODUCTION

Ayurved is the science which deals deeply with the preventive, promotive and curative aspects of ancient health system. It is growing fast in recent era with respect to the health-related new challenges in the form of various communicable, non-communicable diseases. Basic rule for being surviving safely is prevention better than cure. *Ayurveda* is becoming popular due to its unique concepts regarding life styles, treatment of modern era diseases. It is the way

of life, which describes the diet, behaviour and rules and regulations. Also called as *Rutucharya* or *Dincharya*. Various types of *Ahardravya* with their properties have been explained in *Ayurveda*. The foundation of nutrition in *Ayurveda* is based on concepts like *Aharvidheevisheshayatana*.^[1] (*Prakruti*, *Karana*, *Sanyog*, *Rashi*, *Desha*, *Kaala*, *Upayokta*, *Upayoga Santha*) and *Dwadashashanvicharas per Acharya Sushruta*.^[2]

In ancient medicinal treatise, *Ahardarvya*, *Dadhi* is explained mentioning its indication in various diseases, contraindication and rules and conducts regarding use. *Dadhi* is said as *Dugdha Vikruti* means milk product. *Acharya Sushruta* has mentioned 7 categories of *Dadhi* (Curd) viz. *Madhura* (sweet), *Amla*, *Atyamla* (excessive sour), *Mandajat* (improperly formed), *Shrutksheera* (Prepared from boiled milk), *Sara* (Supernatant cream layer), *Asara* (without fat). Besides these *Sushruta* have also quoted the characteristics of *Dadhi* (curd) prepared from milk of cow, buffalo, goat, sheep, horse, elephant, human and camel.

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OBJECTIVE

1. To study the types viz. *Dadhi* prepared from *Ksheer* of various animals from classical texts.
2. To study properties of *Jatadadhi* (completely formed *Dadhi*), *Mandakdadhi* (incompletely formed *Dadhi*).
3. To review on literature available in ancient texts regarding *Dadhi*.

METHODOLOGY

A thorough review of *Dadhi*, its properties was collected from *Samhita* and published article in international journals. After review and analysis of *Ayurveda* and modern review, discussion was prepared.

REVIEW OF LITERATURE

Dadhi is a Sanskrit word used in ancient texts for a lacto-fermented dairy product (*Ksheera Vikruti*) called *Dadhi* in Hindi. In India it is commonly termed as Curd in English. It is prepared by either method using acidic substances like lemon juice, vinegar or homemade by transferring a spoonful of the previous batch of *Dadhi* to *Shrutaksheer* (heated milk) at room temperature. It is then left to curdle at room temperature.

Properties of *Dadhi*^[3]

- *Rasa: Amla* (Sour)
- *Veerya: Ushna*
- *Vipak: Katu*
- *Guna: Guru, Ushna*
- *Doshghnata: Vatghna, Pittkar*
- Properties: *Rochan, Deepan, Vrushya, Balvardhak, Bruhan*
- Useful In: *Atisar, Vishamjwar, Mutkruchha, Aruchi, Karshya*

Preparation techniques of *Dadhi*

Traditionally *Dadhi* is prepared from milk at domestic and industrial level. *Dadhi* is one of the oldest Indian

fermented milk products and may be considered the western equivalent to yoghurt. *Dadhi* is obtained by lactic fermentation through the action of single or mixed strains of lactic acid bacteria or by lactic fermentation accompanied by alcoholic fermentation by yeast from milk. As per traditional method, *Dadhi* is preferably prepared by natural culturing of boiled and subsequently cooled cow, buffalo or mixed milk or with batch of earlier days curd, resulting in variability in its quality due to undefined starter cultures and uncontrolled fermentation.^[4]

Table 1: Types of *Dadhi*.

SN	Types	Properties
1.	Cow <i>Dadhi</i>	<i>Snigdha</i> (demulcent), <i>Madhur Vipaka</i> (sweet) and <i>Deepaniya</i> (appetiser), <i>Vatashamak</i> it helps in <i>Balavardhana</i> (strengthening).
2.	Goat <i>Dadhi</i>	It is lighter than cow <i>Dadhi</i> and calms deranged <i>Pitta</i> and <i>Kapha</i> . It is also curative for <i>Vata</i> provocation and wasting diseases. It increases appetite, and is helpful in haemorrhoids, breathlessness and cough.
3.	Buffalo <i>Dadhi</i>	It has <i>Madhurvipaka</i> . It provokes <i>Vata Pitta</i> and helps specially in strengthening the body.
4.	Sheep <i>Dadhi</i>	<i>Acharya Sushruta</i> states that sheep yoghurt aggravates <i>Vata</i> and <i>Kapha</i> , increases slimy secretions and can tend to derange all the <i>Doshas</i> .
5.	Strained <i>Dadhi</i>	Strained <i>Dadhi</i> calms provoked <i>Vata</i> and is demulcent and restorative. It is great for <i>Pitta</i> ; it does tend to provoke <i>Kapha</i> .
6.	<i>Dadhisara</i> (cream of curd)	Cream of <i>Dadhi</i> calms <i>Vata</i> , is heavy and builds sperm. It is considered aphrodisiac but is also hard to digest and can lead to mucus production, so it's best not to overdo consumption of this product.
7.	<i>Asaradadhi</i>	Fat free <i>Dadhi</i> is drying, astringent, constipating and increases <i>Vata</i> . It also gives relish to food, while being lighter than other types of <i>Dadhi</i> .

Table 2: Types of curd according to Bhavaprakasha^[5]

The five types of curd as mentioned in *Bhavaprakasha Nigantu* are as follows;

SN	Types	Properties
1.	<i>Manda</i> (Semi formed and thick curd)	It increases the production of urine and faeces, it increases <i>Tridoshas</i> and causes burning sensation. It is generally not suitable.
2.	<i>Swadu</i> (Sweet and thick curd)	Sweet in taste, it is an aphrodisiac, increases <i>Meda</i> and <i>Kapha</i> whereas mitigates <i>Vata</i> and is good for bleeding disorders.
3.	<i>Swadamla / Jatadadhi</i> (Sweet – Sour curd)	The curd which is sweet and little sour in taste increases appetite and increases <i>Pitta</i> and <i>Kapha</i> . It also increases disorders of blood.
4.	<i>Amla Jatadadhi</i> (Sour curd)	This is the curd which is properly formed but sour in taste. This curd increases <i>Pitta</i> & <i>Kaphadosha</i> and blood.
5.	<i>Atyamla Jatadadhi</i> (Excessively sour curd)	The curd which is excessively sour when consumed produces tingling sensation in teeth and burning sensation in throat. This promotes appetite and increases <i>Vata</i> , <i>Pitta</i> and disorders of blood.

DISCUSSION

In this context we have to deal with the concept of *Karana* means processing *Ahardravya* with the help of media/instruments/modalities like *Toya* (water), *Agni* (heating), *Sannikarsha* (adding substances), *Shauch* (cleaning and washing), *Manthan*, *Desh Kala*, *Vasana*, *Bhajana*, *Bhavana* helps in changing properties as per requirement. Common characteristics of *Madhur Dadhi* are *Mahaabhishyandi* (excessive hydrating), increases *Kapha* and *Meda*. The quality of *Dadhi* differs with the quality of milk as well as source of milk. Modern science has focused on preparation of curd from milk. It is obtained by process of coagulation of milk (Curdling). This coagulation is achieved by means of enzyme rennet or substances like lemon juice or vinegar. During the formation of curd from milk the constituent's rennet, calcium ions and casein plays main role (Newton Kungelmass).^[6]

The nutritive value of milk product is also depending upon the quality of milk. The basic factors for formation are lactic acid bacteria into milk and subsequent acid production will also result in gel formation of milk. The increased acidity causes the milk proteins (casein) to convert into solid masses, or curds. Milk that has been left to sour (raw milk alone or pasteurized milk with added lactic acid bacteria) will also naturally produce curds. Several market surveys have showed indicated diversity in physico-chemical, microbial, nutritional and therapeutic properties of *Dadhi*.^[7-12] While looking over modern aspects and *Ayurvedic* aspects it will be interesting to analyse the various stages (*Mandaka*, *Jatdadhi*) that have been explained in ancient texts. Regarding the rules of ingestion of *Dadhi*, *Charakacharya*^[13] and *Vagbhatacharya* have mentioned that *Dadhi* should not be ingested at night as it promotes aggravation of *Kapha*.^[14] Consumption of Curd in night should be avoided due to its *Kapha* increasing properties as in night there is *Kapha* dominance naturally. *Dadhi* should never be heated as it loses its properties, its use is contraindicated in *Vasant* and *Sharad Ritu*, it should never be used alone. *Mudgayusha* or *Amalaki* (indian gooseberry) or *Kshaudra* (honey) or *Ghruta* (ghee) or *Sharkara* (sugar) should be mixed in *Dadhi* while eating. It should not be used daily. Also, *Mandaka Dadhi* (not completely formed) should be avoided. Ignoring these rules may cause diseases like *Jwara*, *Rakta Pitta*, *Visarpa Kushtha*, *Pandu*, *Bhrama*. *Amla Dadhi* increases *Kapha* & *Pitta* and also vitiates *Rakta*. *Mandajat Dadhi* causes *Srushtavinmutra* (increases evacuation of faces and urine), *Vidahi* (that causes burning), vitiates all the three *Doshas* (*Tridoshkara*).^[15] As per *Sushruta*, *Dadhi* has *Kashaya Rasa*. *Vishamajwara*, *Atisara* (diarrhoea), *Arochaka* (tastelessness), *Karshya*, *Mutrakruchra* (burning micturition), *Vrushya* (aphrodisiac). According to *Acharya Vagbhata*, *Dadhi* has *Amla Vipaka*, it is *Grahi* (absorbes water from stool) in nature so used in diarrhoea, vitiates *Kapha*, *Rakta*, *Pitta* and may aggravate *Shopha* (oedema), increases *Agni* (appetite), *Shukra* and produces taste.^[16] In diseases like *Grahani* (irritable bowel syndrome) use of

skimmed *Dadhi* is indicated. *Acharya Sushruta* have mentioned *Guna* and *Dosha* of *Dadhi* obtained from various sources.^[17]

CONCLUSION

Good quality of *Dadhi* has better nutritive value and it also have more demand in market. Preparation of *Dadhi* is a skill as it involved appropriate boiling of milk, method of fermentation. According to *Ayurveda* various types of *Dadhi* and its properties as per source of animals has been described with their therapeutic properties. However, in India, buffalo and cow milk are used in diet on tremendous level, compared to other animals' milk. Recently with use of advanced technology dairy products made from milk has become a huge market and farmers get the financial gain from it. Further study can be undertaken to detect microbial contamination as well as to enhance its nutritive value in terms like multivitamins, protein, minerals for the traditional type of *Dadhi*. Research also can be done to standardised its method of preparation and to enrich therapeutic and nutritive value for treating various diseases according to *Ayurveda* management.

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