COMPARATIVE ANALYSIS AND SEASONAL USES OF DIFFERENT ANIMAL SOURCES OF MILK GIVEN IN VARIOUS AYURVEDA TEXTS

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ABSTRACT

Ayurveda is one of the most ancient medical sciences of the world. It is more life & health oriented. It emphasizes much more on diet & regimen along with medicine. Milk is one of the animal origins Dravya which is important for people of all age groups as a dietary supplement & can be taken every day. Milk is beneficial for healthy individuals. The one who consumes milk doesn’t get the disease. Hence there is no better Vrishya Dravya (Aphrodisiac) and no better Jeevaniya Dravya (life prolonger) than milk. Milk is considered as Rasayana (Rejuvenative). Seasonal regimen has been described in our texts. The prime principle of Ayurvedic system of medicine is preventive aspect, can be achieved by change in diet & practices in response to change in climatic condition. In Ayurveda texts, milk of eight different animals i.e. milk of cow, buffalo, goat, camel, human, sheep, elephant & single hoofed animals like horse, donkey etc. has been described with a set of different properties. Milk of cow, buffalo, goat & sheep is easily available in our area. The objective of this is to establish the use of different milk in different seasons based on the properties described in our Ayurveda texts. An attempt has been made for use of cow milk, buffalo milk, goat milk & sheep milk according to season through this paper.
Keywords: Milk, Season, Rasayana.

INTRODUCTION

Ayurveda being the science of life, propagates the gift of nature in maintaining healthy & happy living. It emphasizes much more on diet & regimen along with medicine. Trigunatmic diet has been described in our classics i.e. Satvika, Rajashik & Tamashik. Among these Satvika diet is conducive to higher thought & deep understanding, as well as to a body free from disease. Milk & Milk products belong to Satvika foods that are pure, essential, nourishing, appealing & succulent. Milk enhances the strength of body immediately, strengthens the senses, and provides intelligence, longevity, health /sounndness& happiness and it is considered as main Rasayana.[1] In Ayurveda texts it is described that milk should be taken every day.[2] Milk is beneficial for both physical as well as mental health. It also acts as memory booster. Milk increases the Oja in our body. According to Ayurveda, Oja is regarded to be the purest part of the seven Dhatus and is referred to as Bala by Acharya Sushruta, the body’s natural immunity. Our physical, mental & spiritual strength is totally dependent on Oja. In Ayurveda it is known as Vyadhikshamata i.e. immunity. There is no better Vrishya Dravya (Aphrodisiac) and no better Jeevaniya Dravya (life prolonger) than milk.[3] In Ayurvedic texts, milk of eight different animals i.e. milk of cow, buffalo, goat, sheep, camel, human, elephant & single hoofed animals like horse, donkey etc. has been described with a set of different properties. In general all types of milk is Madhura (Sweet in taste), Snigdha (Demulcent), Vata – Pittahara (Sub-sides Vata and Pitta Doshas), Sara (Laxative), Sadya Sukrakara (Increases semen), Sheeta (Cold in potency), Satmya (Suitable to all), Jeevana (life promoting), Brimhana (Weight promoting), Balya (Strengthener), Medhya (Brain tonic), Vajikara (Aphrodisiac), Vyashapana (Anti-aging), Ayushya (longevity), Sandhanakara (Heals the fractures), Rasayana (Tissue vitalizer)[4]. In our area cow, goat, buffalo and sheep milk is easily available. Acharaya Sushruta has been mentioned that raw milk is usually Abhishyanti and heavy to digest but after boiling is becomes light to digest and non Abhishyanti. So, all the milk should be used after boiling, except human milk.[5] Milk is described as the nearly perfect food of the nature for all age groups. It is also called best & complete food. Milk is a very wholesome food, because it contains almost all nutrients, except Iron & Vitamin C. It is a richest source of Calcium. It is easily digestible & very essential for the young for their growth & development.[6]. The prime principle of Ayurvedic system of medicine is preventive aspect, can be achieved by change in diet & practices in response to change in climatic condition. The concept of “Yat Pinde Tat Brahmande” (whatever there is in the environment is also there in the human body) was applied, which led to appreciating changes in the human body according to seasons and regimens were made accordingly. Different seasons have been described in our texts. Each has its own characteristics. For prevention of disease & promotion of health, diet should be according to the season.

Aim and Objectives

1. To study the description of cow, buffalo, goat and sheep milk in Ayurvedic classics elaborately.
2. To study the nutritional value of cow, buffalo, goat and sheep milk.
3. To establish the use of different milk in different seasons.

Material & Methods: The different properties of Cow, Buffalo, Goat and Sheep milk are mentioned in our texts. According to Acharya Sushruta, milk of Go, Mahishi & Aavi are Madhura(sweet) in taste, Guru (heavy in digestion), Snigdha (demulcent) & these are Sheeta (cold in potency) except Aavi which is Ushna (Hot). Among these Mahishi dugdha is Ati Guru, Ati Snigdha. Whereas Aja Dugdha is Madhura(sweet) and Laghu (light).[7]

According to Acharya Charaka, Godugdha is Madhura (Sweet) in taste, Sheeta Virya (Hot) in potency, Mrudu (Softening the tissues), Snigdha (Demulcent), Bahala (Thick), Shlakshna (Smooth), Picchila (Sticky), Guru (Heavy), Manda (Dull), Prasan-
na (Causes enthusiasm). Acts as Rasayana (Vitalizer) & Oja Vraddhikar (Increases essence of all the seven Dhatus; Rasa-Rakta-Mansa-Meda-Asthi-Majja-Shukra). The Aja Dugdha is Kashaya (Astringent), Madhura (Sweet) in taste, Sheeta (Cold) in potency & Laghu (Light), Aavi Dugdha is Ushna (Hot) in potency & the Mahishi Dugdha is more Guru (Heavy) & Sheeta (Cold) in potency than Godugdha.\[^8\]

Godugdha is Madhura (Sweet in taste), Madhura Vipaka (Sweet - post digestive effect), It is Guru (Heavy), Sheetala (Cooling), Stanyakrit (Promotes breast milk), Snigdha (Demulcent), subsides Vata-Pitta and Rakta. The Avika Dugdha is Lavana (Salty), Swadu (Palatable), Snigdha (Demulcent), Ushna (Hot in potency), increase Kapha, Pitta & Guru (Heavy). The Mahishi Dugdha is Maha-Abhishyandi (Causes blockage of the channels), Madhura (Sweet) in taste, Sheetala (Cooling), Snigdha (Demulcent) & Guru (Heavy). The Aja dugdha is Madhura (Sweet), Kashaya (Astringent) in taste, Laghu (Light), Sheeta Virya (Cold in potency) & Sarvaroganashaka cure all the diseases.\[^9\]

### Table 1: Showing properties of different milk as per Ayurvedic texts

<table>
<thead>
<tr>
<th>Rasa</th>
<th>Go Dugdha</th>
<th>Mahishi Dugdha</th>
<th>Aja Dugdha</th>
<th>Aavi Dugdha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guna</td>
<td>Guru, Snigdha</td>
<td>Ati Guru, Ati Snigdha</td>
<td>Laghu</td>
<td>Guru, Snigdha</td>
</tr>
<tr>
<td>Virya</td>
<td>Sheeta</td>
<td>Ati Sheeta</td>
<td>Sheeta</td>
<td>Ushna</td>
</tr>
<tr>
<td>Prabhava</td>
<td>Vata-Pitta Shamaka, Kapha vardhaka</td>
<td>Vata-Pitta Shamaka, Kapha vardhaka</td>
<td>Vata vardhaka, Pitta-Kapha Shamaka **</td>
<td>Kaphavardhaka</td>
</tr>
</tbody>
</table>

*Also Lavana by Acharya Bhav Prakash ** Sarvaroganashaka by Acharya Bhav Prakash

In Harita Samhita, different properties of Aavi Dugdha has been described. According to Acharya Harita, Aavi Dugdha is Madhura, Guru, Ruksha, Vata - Kapha Shamaka and Pitta vardhaka.\[^10\]

### Nutritional Value (per 100 gram)

Milk has been described as the ‘nearly perfect food’ of the nature. It is easily digestible. The principal milk protein is casein. Other proteins are lactalbumin and lactoglobulin. Milk proteins contain all essential amino acids. Milk fat is a good source of carotene. The carbohydrate in the milk is lactose. Milk is the only natural source of lactose.\[^11\]

### Table 2: Showing nutritional value of different milk as per modern science.

<table>
<thead>
<tr>
<th>Component</th>
<th>Cow milk</th>
<th>Buffalo milk</th>
<th>Goat milk</th>
<th>Sheep milk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein</td>
<td>3.2</td>
<td>4.3</td>
<td>3.3</td>
<td>06</td>
</tr>
<tr>
<td>Fat</td>
<td>4.1</td>
<td>6.5</td>
<td>4.5</td>
<td>07</td>
</tr>
<tr>
<td>Water</td>
<td>88</td>
<td>83</td>
<td>87</td>
<td>80</td>
</tr>
<tr>
<td>Sodium</td>
<td>40mg</td>
<td>52mg</td>
<td>50mg</td>
<td>44mg</td>
</tr>
<tr>
<td>Energy</td>
<td>67 kcal</td>
<td>117 kcal</td>
<td>72 kcal</td>
<td>108 kcal</td>
</tr>
</tbody>
</table>

### Season and Milk:

The season classified by different features express different effects on the body as well as the on environment. Ayurveda has depicted various rules and regimens (Charaya), regarding diet and behavior to adjust seasonal enforcement easily without altering body homeostasis. The prime principle of Ayurvedic system of medicine is preventive aspect, can be achieved by change in diet & practices in response to change in climatic condition.

**Milk in different Seasons:** Buffalo milk should be used in summer season i.e. in Greesham Ritu. The milk of Sheep is useful in Hemanta (beginning of winter). Cow’s milk is like ambrosia for human beings during the rainy season i.e. in Varsha Ritu.\[^12\]
According to Seasons Sanchaya (Accumulation), Prakopa (Aggravation) & Prashamana (Pacification)

Table 3: Showing Sanchaya (Accumulation), Prakopa (Aggravation) & Prashamana (Pacification) of Doshas in different seasons

<table>
<thead>
<tr>
<th>Dosa</th>
<th>Sanchaya</th>
<th>Prakopa</th>
<th>Prashamana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vata</td>
<td>Greeshama</td>
<td>Varsha</td>
<td>Sharda</td>
</tr>
<tr>
<td>Pitta</td>
<td>Varsha</td>
<td>Sharda</td>
<td>Hemanta</td>
</tr>
<tr>
<td>Kapha</td>
<td>Shishira</td>
<td>Vasanta</td>
<td>Greeshama</td>
</tr>
</tbody>
</table>

Summer Season: Buffalo milk should be used in summer season i.e. in Greesham Ritu. In Greesham Ritu, accumulation (Sanchaya) of Vata dosha and pacification (Prashamana) of Kapha dosha occurs. Food which is light in process like those having Snigdha (unctuous), Madhura (sweet), Sheeta (cool) and Dra-va (liquid) and lot of water is advised. Buffalo milk with little sugar is the drink of choice in summer.\(^{[14]}\) Buffalo milk is Madhura (sweet), Sheeta (cool), Snigdha (unctuous), that is why should be taken in Summer Season. In summer season temperature increases & sweating occurs. During sweating loss of sodium and water occurs & dehydration occurs. As the buffalo milk constitutes high sodium and water content, can be helpful in compensating the loss and maintain hydration.

As the body temperature rises, Proteins begin to deteriorate. Buffalo milk is excellent source of Proteins as it contains 4.3g protein per 100g. During summer, daytime lasts longer than 12 hours. Buffalo milk is heavy, takes time to digest and keeps us fuller for longer period of time.

Winter Season: Sheep milk should be used in winter season i.e. in Hemanta Ritu. In Hemanta Ritu, pacification (Prashamana) of Pitta Dosha occurs. An individual’s strength (Bala) & digestive fire (Agni) stays at the highest level in this Ritu. So, the heavy food items can be easily digested. Madhura (sweet), Salty (Lavana), Sheeta (cool), Snigdha (unctuous) foods should be included in diet.\(^{[15]}\) As the sheep milk is Madhura (sweet), Lavana (salty), Guru (heavy to digest), Snigdha (unctuous) and Ushana (hot) in potency that is why should be taken in winter season. When digestive fire does not get the proper fuel, it affects the nutritive fluids, resulting in vitiation of Vata dosha. Because of Vatashamaka nature sheep milk is beneficial.

Sheep milk takes longer time to digest, can help to raise the body temperature & keeps the body warmer. Sheep milk contains fat in good amount. In winter season, our body uses fats to facilitate the absorption of vitamins A, E, K & D. Sunlight aids in vitamin D absorption, & most individuals get less sun when temperature drop.

Rainy Season: Cow milk should be used in rainy season i.e. in Varsha Ritu. In Varsha Ritu, accumulation (Sanchaya) of Pitta dosha and aggravation (Prakopa) of Vata dosha occurs. An individual’s strength becomes weak during this season. Snigdha (unctuous) and Tridosh shamaka foods are indicated in this season.\(^{[16]}\) Cow milk provides strength i.e. Balya in nature. Cow milk is Snigdha (unctuous) and Tridosh shamaka i.e. why can be used in rainy season. Rainy season trigger our immune system, leading to infections. Cow milk contains about 88% of water. Water aids in boosting our immunity as they negate the building of toxins in our body. Cow’s milk increases the Oja in our body. Oja is natural immunity of the body. Hence milk increases the immunity.

Cow Milk can be used in any season and every day. Ten properties of cow milk have been described in our texts. That are Swadu (Sweet), Sheeta (Cold), Mridu (Soft), Snigdha (Oily), Bahala (Thick), Shlakshna (Smoothness), Pichila(Sticky), Guru (Heavy), Manda (Slow), Prasanna (Clarity). These are also the properties of Ojas. Cow’s milk increases the Oja in our body. It is better Jeevaniya Dravya & Rasayana.\(^{[17]}\) According to the concept of Samanya & Vishesha –

\(^{[13]}\) in Table 3.
Substances or *Dravya* are always enhanced by consuming same things. So intaking of Cow’s milk increases the *Oja* in our body. According to *Ayurveda*, *Oja* is regarded to be the purest part of the seven *dhatus* & is referred as *Bala* by *Acharya Sushruta*, the body’s natural immunity. It is also known as *Vyadhik-shamatava*. Our physical, mental & spiritual strength is totally dependent on *Oja*. *Achara Rasayana* has been described in our texts in which milk is prescribed. As the milk is considered as a Rasayana.

**Table 4:** Comparison of utility of different milk in different season as per *Ayurveda* & modern science

<table>
<thead>
<tr>
<th>Season</th>
<th>Rainy</th>
<th>Summer</th>
<th>Winter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>Cow</td>
<td>Buffalo</td>
<td>Sheep milk</td>
</tr>
<tr>
<td>As per Ayurveda</td>
<td>An individual’s strength becomes weak during this season. Cow milk provides strength i.e. <em>Balya</em> in nature.</td>
<td><em>Snigdha</em> (unctuous), <em>Madhura</em> (sweet), <em>Sheeta</em> (cool) and <em>Drava</em> (liquid) and lot of water is advised. Buffalo milk constitutes these properties.</td>
<td><em>Guru</em> (heavy to digest), <em>Snigdha</em> (unctuous) and <em>Ushana</em> (hot) <em>Dravya</em> are advised. Sheep milk constitutes these properties.</td>
</tr>
<tr>
<td>As per modern science</td>
<td>Rainy season trigger our immune system. Cow milk contains about 88% of water. Water aids in boosting our immunity.</td>
<td>Temperature increases &amp; sweating occurs. Loss of sodium and water occurs &amp; dehydration occurs. Helpful in compensating the loss and maintain hydration.</td>
<td>In winter season, temperature falls, and we feel colder. It raises the body temperature &amp; keeps the body warmer.</td>
</tr>
</tbody>
</table>

**CONCLUSION**

Milk provides special & unique nutrition that cannot be derived from any type of food. Milk nourishes all the tissues, promotes balanced emotions and help to balance all the *doshas*. It is one of the most important foods to promote the *Ojas*. *Ojas* brings strength, strong immunity and happiness. It is beneficial for people of all age groups as a dietary supplement & can be taken every day. It is also called *Jeevaniya dravya*. Hence there is no better life prolonger substance than milk.

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