



RESEARCH ARTICLE

MYTHS AND FACTS OF COW'S MILK AS AN INFANT'S NUTRITION.

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Abstract:

Discussions and debates have recently emerged on the potential positive and negative effects of cow's milk in the pediatric community, also under the pressure of public opinion. Although feeding cow's milk to an infant is more than thousand year old tradition in India, it is unsafe practice in modern context. There seems to be significant compromise being made on infant's health as mother's milk is being substituted for variety of reasons in the 1st year itself, when the child is most vulnerable to infections noted by experts.

Nutrition experts are worried that infants in the country may be silently suffering from reduced nutrient content in their milk due to common household practices such as boiling, adding water, removing the layer of milk cream, strip milk of its essential nutrients and vitamins. The most important of these is in some infants cow's milk may be sensitive and sometimes strains the digestive system of babies.

Ayurveda gives lots of importance on good nutrition at every stage of child's life, in order to preserve their health. To make the most health benefits of cow's milk and to boost its digestive properties in children, one should recommend *aushadhasiddhadugdha* (herbs infused milk) to infants. Milk when digested properly, nourishes all the tissues, promote balanced emotions and help to balance all the doshas in child as well as in an adult.

Key Words:- Cow's milk, Infant, *Dugdha*, *Ayurveda*, *Aushadha*, Health.

Introduction:-

As rightly said there is no medicine like food and food alone can make person healthy. That is why food is considered as *Mahabhaishya* (Great medicine) ^[1].Milk is often dubbed as complete food because of its rich content of protein, fat, carbohydrate, all known vitamins and various minerals essential for maintain good health of all.For a newborn mother's milk is ideal first food for babies though it provides the ideal nutrition for infants. Exclusive breast feed strongly recommends up to 6 months of age.

National Family Health survey III states that only 69% of the infants below 2 months gets exclusive breast feeding and between 2-3 months, Exclusive breast feed falls 51% and declines further to 28% between 4-5 months of age. The decline occurs become mother's supplement milk with plain water initially and later with bovine milk (cows and buffaloes). ^[2]

Although cow's milk just happens to be most convenient source of calcium, proteins, fats, and vitamin D, it isn't recommended to be given to newborn babies. American Academy of Pediatrics stated that babies should not drink cow's milk until at least 12 months of age, related to medical perspectives. Newborn given unaltered cow's milk can develop serious illness including diarrhea, anemia and electrolyte imbalance etc. ^[2]

According to modern, there seems to be variety of following reasons for non-recommendation of cow's milk up to 1st year of life ^[3];

- a. A baby's digestive system isn't developed enough to handle the large quantity of proteins such as *casein* and *whey* in cow's milk.
- b. Early introduction of cow's milk to infant can make their system intolerant towards it.
- c. Cow's milk can make your newborn Iron deficient as it interferes with iron absorption in their body.

- d. Food allergies like Cow Milk Protein Allergy tend to appear within the first year of life, while an infant digestive system is still quite immature.
- e. Lactose intolerance may be seen in some premature as well as in term babies.

Some of the above reasons discussed in brief are as follow. ^[2,4]

Nutritional deficiencies:-

American Academy of Pediatrics committee on Nutrition determined that babies drinking unprocessed cow's milk suffers from significant deficiencies in Iron, linoleic acid and Vitamin E. Left untreated these deficiencies leads to life- long learning disabilities and delayed motor developments.

Over-nutrition:-

American Academy of Pediatrics notes that cow milk contains excessive levels of some nutrients, electrolytes like potassium and sodium, which regulate fluid intake. These can tax a newborn baby's developing kidneys and can cause serious illness when the baby loses fluid because of sweat or diarrhea.

Gastro-intestinal irritation:-

American Academy of Pediatrics notes that compounds in cow's milk can irritate the lining of baby's stomach and colon. This can lead to abdominal pain as well as the loss of blood in baby's stool. Overtime, the blood loss from digestive irritation can cause or worsen Iron deficiency anemia. Higher incidence of diarrhea and vomiting among babies drinking whole cow milk.

Allergic reactions:-

Babies given cow milk early in life are more likely to develop milk allergies like rashes, breathing issues and wheezing. Cow's milk high protein content substantially increases the likelihood of an allergic reactions compared to infant formula which contains fewer allergic compounds.

Lactose intolerance:-

An intolerance occurs when baby has difficulty in digesting lactose which is natural sugar found in milk. Lactose intolerance can show up as stomach pain, diarrhea, bloated stomach with excessive wind etc.

CMPA (Cow milk protein allergy):-

Allergy to cow milk protein is usually transient. It is immune mediated reaction to milk proteins and occurs after ingestion of cow's milk. Immediate reaction is IgE mediated and late onset reaction is T-cell mediated reaction. Due to sensitization to cow's milk protein, infants presents with intractable diarrhea with failure to thrive due to malabsorption. Other manifestations are vomiting, mimicking, GERD, chronic constipation, anemia, hematemesis, eczema, sneezing, cough with wheeze. It has been reported in 2-7% of infants and young children. ^[5]

Infants are having weak digestive power so suitable feeds need to be selected. According to Ayurveda wisdom, cow's milk is next best thing to breast milk for newborns.

Cow milk has ten properties viz ;

svāduṣṭāṁmṛdusnigdhaṁbahalaṁślakṣṇapicchilam|
guru mandamprasannaṁ ca gavyaṁ daśaguṇampayaḥ||217||
tadevaṅguṇaṁ evaujaḥsāmānyādabhivardhayet|
pravaraṁjīvanīyānāṁk śīramuktaṁrasāyanam ||218|| (Ch. Sutra Sathana 27) ^[6]

Swadu – Sweetness,

Sheeta – cold

Mrudu – soft

Snigdha– unctuous, oily

Bahala – density, thick

Shlakshna – smoothness

Picchila – sliminess, stickiness

Guru – heavy

Manda – slowness

Prasanna – calming, clarity.

These are also the properties of *Ojas*. So milk having identical properties is conducive to the promotion of *Ojas*, thus milk is an elixir per excellence (*Rasayana*).

As reiterate by Ancient Ayurvedic Acharyas, Cow milk is the primary mode of nutrition for all chronic conditions and in convalescence periods as well.

Cow milk uses as per Astanga Samgraha text book:-

Athagavyam tujīvanīyam rasāyanam |kṣatakṣīṇahitammedhyam balyamstanyakaramsaram |
śramabhramamadālakṣmīśvāsakāsātīṭṛkṣudha: | jīrṇajvaramūtrakṛcchraraktapittam canāśayet | |(A Sa.Su 6/54-55) ^[7]

Jeevaneeya—enlivening

Rasayana—rejuvenating, anti-aging

Medhya—brain tonic

Balya—improves strength and immunity

Stanya — improves lactation

Sara — laxative, promotes movement of liquids in channels

Cow milk benefits are innumerable:

Sweet in taste (*Swadupaka*), heavy to digest, has coolant effect on the body and mind, improves *Ojas*. *Ojas* is considered as the factor responsible for the immunity of the body, (*Ojovardhaka*), Nourishes the body tissues (*Dhatuvardhaka*). Acts as natural aphrodisiac. Does rejuvenation, increases life expectancy. Improves intelligence, gives strength. Increases breast milk in the feeding mother. Assists in easy movement (peristalsis) of intestines. Relieves tiredness, dizziness, excessive thirst and hunger. Useful in diseases like severe debility, relieving stage of fever, diseases related to urinary system, bleeding disorders such as nasal bleeding, heavy menstrual bleeding etc.,

In some instance it has been noticed that giving cow's milk in infancy can lead to various problems like acute fever, delayed digestion(due to *alpaabhishyandi* property), skin problems, increase of *kapha dosha*, loose bowel movements(due to *mridurechak* property), bloating, cramps in abdomen etc.

In order to reduce or neutralize above various allergic symptoms and to make cow milk digestible for babies, one should process cow milk with Ayurvedic herbs i.e; *Laghupanchmoola siddha dugdha* as said in an ancient text Astanga Samgraha Uttar Sathana. ^[8]

It provides nourishment and strength to body.

Laghupanchmoola itself is not an individual entity but a collective name attributed to the combination of Roots ((*Mool*=Roots) of 5 (*Pancha* = 5) plants; Equal proportions of following herbs constitute the group of *Laghupanchmoola*.

1. **Shaalparni** (*Desmodium gangeticum*)
2. **Prishnaparni** (*Uraria picta*)
3. **Gokshur** (*Tribulus terrestris*)
4. **Brihti** (*Solanum indicum*)
5. **Kantkaari** (*Solanum xanthocarpum*)

Ayurvedic Properties of Laghupanchmoola :^[9]

RASA (Taste)	TIKTA (Bitter), KASAYA (Astringent) & MADHURA (Sweet)
GUNA (Main Quality)	LAGHU (Light)
VIRYA (Potency)	ANUSHNA (not too hot and not too cool)
PRABHAVA (Action)	Strengthening
DOSHA KARMA (Effect on humors)	Pacifies VATA Dosha & PITTA Dosha

Pharmacological Actions:-

Laghupanchamoola has following medicinal properties:

- Analgesic
- Anti-arthritis
- Anti-inflammatory
- Antioxidant
- Anti-paralytic
- Antispasmodic
- Digestive
- Neuro- protective
- Uterine tonic
- Lithotripter (lithotriptic) – dissolving stone in the kidneys or bladder

As per Ayurveda , Cow milk when processed with *Laghupanchmoola* it makes way for good digestion in children and helps to minimize all negative effects of cow's milk that baby suffers by taking it unprocessed.^[7]

Conclusion:-

Milk is very important food to include regularly in one's diet. Though milk is popular drink around the world, it may seem surprising that it isn't recommended for infants on the onset. However, once the one-year age barrier is crossed, one can transition towards cow milk and milk based products. Cow's milk considered to be best in Ayurveda.

The sole purpose of this article is to provide information about the tradition of Cow milk in Ayurveda.

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