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Camel's Milk: Nutrition and Health Perspectives of Iranian Traditional Medicine

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Abstract

Introduction

Camel milk is the closest to human mother's milk. In the references on Iranian traditional medicine, camel's milk has been represented as the one having numerous nutritious and medical properties.

In this study, the nutritive and therapeutic effects of camel's milk have been examined from the view point of Iranian traditional medicine.

Materials and Methods

The present study is a qualitative one, which was carried out, based on certain criteria, through purposeful search of certain keywords in the written references of Iranian traditional medicine.

Results

Numerous pharmacological functions and therapeutic effects of camel's milk on patients suffering from liver, kidney, bladder, spleen, stomach and intestines, uterus, skin, lungs, and brain diseases have been mentioned. Camel's milk seems to be an appropriate alternative/supplement to nourish infants and children.

Conclusion

Animal resources, such as camel's milk and its various products, have comprehensively been dealt with regarding their nutritive and therapeutic effects. Its compatibility with and similarity to mother's milk have led to its application in pediatrics; thus, offering valid information to pediatricians on camel's milk can further enhance the consumption of this natural product.

Keywords: Camel's Milk، Laban Al-Leghah، Iranian Traditional Medicine, Nutrition.

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1- Introduction

Iranian traditional medicine (ITM) includes all the theoretical and practical sciences applied in diagnosis, prevention, and treatment of diseases, which have descended from the written works of Persian physicians, such as Avicenna (980-1037 AD), Zakariya al-Razi (864 –930 AD), Seyed Esmail Jorjani (1042-1137 AD), and others in texts like: "Al-Qanun fit-tib", "Al-Hawi", "Zakhireh Khaarazmshahi", etc.

In this science of medicine, focus on nutrition is one of the major principles of prevention and treatment; besides, there is a rising tendency, all over the world, to take advantage of complementary or alternative medicine. Milk has always been one of the main dairy products throughout history.

Camel's milk is the center of scientists' attention all through the world due to its nutritive and therapeutic properties and its significant similarity to human milk. It is white, opaque, and a little saltier than cow milk (1). Camel's milk has been customarily used in Iran and other countries to cure multiple diseases. It contains important proteins and peptides, which have nutritive, functional and biological properties. In some regions, people believe that it is highly nourishing and deeply affects the growth of infants; hence it is applied in their nutrition. Its physical and chemical properties heavily depend on the quality and quantity of the forage and the amount of daily consumption of water by the camels (2).

2- Objectives

This study aims at extracting, assessing and analyzing such information, according to texts on Iranian traditional medicine in camel milk.

3- Materials and Methods

The current study was a qualitative library research aimed at investigating the texts on Iranian traditional medicine. In additional, literature search was done within electronic databases including: PubMed, Scopus, Cochrane library, Google Scholar, SID, Iranmedex and Magiran. According to a certain criteria, using the following keywords "Camel's milk", "Laban al-leghah" and "Traditional Medicine". The results were limited to articles published between 1990 and 2014.

The data was extracted from: "Al-Qanun fit-tib", "AksirAzam", "Teb e Akbari","Makhzan -ol- Advieh", "QarabadinKbir" and other authentic books; then, it was classified based on the type of study and clinical applications. In the end, the content of the study was interpreted and evaluated through a final perusal.

4- Results

Camel's milk in Iranian traditional medicine resources: Camel's milk(laban al-leghah) contains three components, namely fat, cheese and water, and is thinner in comparison to other animals' milk (3). It is endowed with a hot and dry nature and a rather salty taste. Its pharmacological functions include: Eliminate dryness (Moister), Cleaner (jaali), dissolvent (moallel), Equalizer (monzej), tonic, as well as removal of blockage or obstruction (opener), reduction of deep and firm swellings, and detoxification in the liver, it has also been known to be compatible with the body (4-6).

Moreover, multiple nutritive and therapeutic applications have been mentioned for camel's milk with regards to various organs; the most prominent ones include reduction of swelling, healing of wounds, restoration of organs, balancing the body humor, purging the bowels, diuretic and menstrual effect, enhancing sexual desire, restoration of the body, nourishing and supplementing food for the weak, removal of blockage/ obstruction,

and a substitute for mothers' milk. Its major therapeutic effects on liver, kidneys, spleen, bladder, stomach, intestines, uterus, skin, lungs, and brain have been fully illustrated in (Table. 1) (3, 7-12)

Table 1: The therapeutic effects of camel's milk according to traditional medicine

Variables	Organ-related diseases or the therapeutic effects in traditional medicine
Liver	Liver pain, dystemperament of the liver, treating liver obstructions, estesgha (Dropsy)
Uterus	Stiff swollen uterus
Spleen	Swelling and obstruction of the spleen
Kidneys and bladder	Renal weakness and atrophy, bladder ulcers and cystitis
Lungs	Cough, hemoptysis, tuberculosis, asthma
Stomach and intestines	Gastric ulcer and swelling, reducing flatus, tonic the organs, laxative, hemorrhoid
Skin	Skin beauty, eczema
Brain and heart	Depression, phobia
Cancer	Uterine and gastrointestinal cancers
Eyes	Improving vision or reinforcing the eyesight
Teeth	Facilitating teeth growth
General functions	Sexual desire enhancer, body restoration and nutritive supplement, diuretic and purgative effect, appetizing, and menstrual facilitator

4-1. Contraindications of consuming camel's milk

- Fever,
- Stomach illness,
- Milk intolerance,
- In the early stage of disease (5, 6).

4-2. The appropriate time for consumption

- The best time to consume camel's milk is from spring until the early days of summer.

4-3. How to use camel's milk

- The patient's stomach should be empty,
- The patient should not eat heavy meals before use,
- The patient should not sleep immediately afterwards,
- The patient should not have anything else afterwards,
- The patient should rest for a while afterwards,
- The patient should avoid anything which would cause milk to solidify (5).

4-4. Follow-up steps to be taken after consumptions

The physician must ask the following questions to investigate the trend of its impact and to take appropriate measures to eliminate the side effects or to stop using it, if necessary:

- Does the body accept it or does it cause diarrhea?

- Is the diarrhea caused by drinking camel's milk trivial?
- Is the diarrhea caused by camel's milk is more, in amount, in comparison to the weight of milk taken? Can the patient stand it?
- Does it solidify in the patient's stomach or passages?
- Does it cause the patient's cold temperament?
- Does it cause phlegmatic (Balgham) Akhlaat (Structural Components)? (5).

4-5. The dose and duration of consumption

In the above-mentioned resources, the recommended dose is from approximately 70 cc to 800 cc a daily, which should be gradually consumed, based on the individual patient's tolerance and humor, for 21, and in some references, up to 40 days. Any further consumption should be supervised by a physician, and the amount should reduce daily after the treatment period (5-7).

4-6. Side effects

Major side effects not have been reported. Diarrhea and cramping in some people seen (5, 7).

5- Discussion

Complementary and Alternative Medicine (CAM) therapies have become increasingly in populations. CAM is defined as "A group of diverse medical and health care systems, practices, and products that are not generally considered to be part of conventional medicine" (13). CAM includes techniques such as acupuncture, chiropractic, homeopathy, herbal medicine, animal resources and spiritual healing(14). Iranian Traditional Medicine (ITM) is one of the oldest traditional medicines with more than 1000 years of history. Dietary consideration is the first step in ITM-based treatments (15). Milk is an important food for children. Animal resources, such as camel's milk has been used for centuries as a medicinal drink in Middle Eastern, Asian, and African cultures (16-18).

In texts on Iranian traditional medicine, camel's milk has been reported to be thinner with less fat and cheese components in comparison to cow's milk and its temperament camel milk is hot and dry and also possesses some bitterness and acridity (7, 11). In new studies showed camel milk has a high vitamin and mineral content and immunoglobulin content (19).

Moreover, some general and specific effects are mentioned. Its specific effects include the ones on liver, kidneys, bladder, stomach and intestines, spleen, and skin while its general effects are named as food, energy booster, body moisturizer, diuretic and menstrual facilitator, and sexual desire enhancer. Its various applications for liver, kidneys, and bladder in the references confirm its particular effect on these organs. Our findings in classic medicine reported that camel milk is the most functional natural liquid that could play an important role in diabetes, Crohn's disease, food and milk allergies, autism, cancer, diarrhea, peptic ulcers, skin, hepatitis diseases (20-27).

In Iranian traditional medicine, consuming milk as a whole has a significant role in treatment whereas classic medicine has mostly focused on milk components. In "Al-Qanun fit-tib", camel's milk is introduced as the most compatible one with mother's milk. Moreover, recent studies have revealed that, if necessary, it can replace mother's milk to feed infants and children (5, 24).

6- Conclusion

Camel milk, has been used medicinally for centuries by people, is the closest to human mother's milk and safe for children. The school of Iranian traditional medicine, with a several-thousand-year experimental support, is an invaluable source for research and revival of natural treatments. Animal resources, such as camel's milk and its

various products, have comprehensively been dealt with regarding their nutritive and therapeutic effects. Its compatibility with and similarity to mother's milk have led to its application in pediatrics; thus, offering valid information to pediatricians on camel's milk can further enhance the consumption of this natural product.

Camel's milk is an excellent source of well-balanced nutrients and also exhibits a range of biological activities that influence digestion, metabolic responses to absorbed nutrients, growth and development of organs and resistance to diseases. However, in spite of various experimental and animal studies, lack of comprehensive clinical trials aimed on regarded effects still remains to reconfirm the traditional knowledge.

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8- Authors' Contributions

Study concept and design: All the authors. Acquisition of data: Mohammadreza Noras. Analysis and interpretation of data: Mohammadreza Noras, Said Zibaee, Mahdi Yousefi, Ali Taghipour. Drafting of the manuscript: Mohammadreza Noras , Ali Taghipour. Critical revision of the manuscript for important intellectual content: Seyyd Musa al-Reza Hosseini, Said Zibaee and Mahdi Yousefi.

9- Conflict of Interest: None

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