



Maul-Jubn(whey)Milk water : A Potent Unani Formulation

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ABSTRACT:

Maul-Jubn (Whey), milk water a by-product of the dairy industry was in use since thousands of years as nutraceutical (nutritional pharmaceutical) in the traditional(Unani) system of medicine. For several years it was thought to be insignificant and was either used as an animal feed or it was discarded off as waste material. But Over the last few years several studies were carried out concerning the importance of nutritional value of whey and the properties of its compositions. It is now accepted and proved that its main content, whey proteins, have antimicrobial, antiviral and anti-oxidant properties, can offer a kind of protection against various diseases and assist at the enhancement of defence mechanism of the human body. In Unani medicine the importance of Maul-Jubn in the prevention and treatment was well known to Unani physicians since ancient time, and abundant literature regarding its usage and classical method of preparation have been discussed. The present study attempted to discuss the importance of usage and its preparation of Maul-Jubn in the light of Unani medicine with addition of some recent scientific reports.

Keywords: Maul-Jubn, classical ;unani , whey.

Introduction:

Milk provides nutrition in the form of energy from carbohydrates present in the form of lactose , nitrogen from the protien content and is a rich source of calcium to build bones. Milk also provides other nutritional benefits for maintaining good health .Naturally milk is a complex mixture composed of protiens, water ,fats, lactose (milk sugar), vitamins and minerals. The main component of milk making is water about 87% of its weight and solid part which is composed of casein and whey protein. Casein makes up about 80%of the total protein content ,while whey protein account for the remaining 20%. These proteins are rich in essential amino acids necessary for growth and development. Milk fat ,also known as butterfat , gives milk a characteristic creamy texture and flavour. The amount of fat in milk varies depending on the type of milk (whole, reduced-fat, skim, etc.) In whole milk , fat typically constitutes 3-4 % of its volume. Milk sugar, lactose, is a carbohydrate that provides energy. It is composed of glucose and galactose molecules. Milk is a good souce of several vitamins, including vitamin A ,vitamin D, vitamin B12, riboflavin(B2) and niacin (B3). These vitamins are essential for various bodily functions ,such as bone health , vision and energy

metabolism. Milk is a rich source of calcium, phosphorous, potassium and magnesium. The exact composition of milk varies according to species of the animal, breed, diet and processing methods.

Whey protein is a complete protein, meaning it contains all nine essential amino acids that a body cannot produce on its own and must be obtained from diet. It is particularly high in branched chain amino acids such as Leucine, Isoleucine and Valine, which are important for muscle protein synthesis and recovery.

Whey protein is popular among athletes, body builders and fitness enthusiasts for its ability to promote muscle growth, enhance recovery after exercise and support overall fitness goal. It is also used in various food products and supplements due to its nutritional benefits and properties. For example, there are many biological activities associated with certain components in milk. Almost without exception, these biologically active components are exclusively to be found in whey or serum fraction of milk. Whey is the watery which is received during making of cheese by coagulating and separating casein proteins from milk. Food and pharmaceutical industries are constantly in search of novel products with a strong nutraceutical function using whey or whey-derived ingredients as a valuable source. The list of nutraceutical compounds associated to whey-derived products includes vitamins, probiotic cultures, and bio active peptides, and the scientific evidence to support health benefits, either for prevention or treatment of some diseases, is steadily growing. Whey is the by-products obtained during the manufacturing of cheese. Unani Scholars from ancient time paid attentions towards proper processing of Maul-Jubn and other milk products. They provided certain guidelines and important protocols to be followed while preparing Maul-Jubn in order to make the product more useful in the prevention and treatment of various diseases. Same as they provided guidelines regarding the proper use of Maul-Jubn in some diseased conditions. Today various scientific studies have proved the importance of Maul-Jubn and validated its usefulness in health sectors.

Historical background of zootherapy:

The treatment of human ailments by using medicines that are obtained from animals or ultimately are derived from them is known as zoo therapy. Sources of ancient Egypt mention the medicinal uses of animal-derived products, such as, bee honey, cattle milk, ox organs, lizard blood, bat limbs, ambergris from the sperm whale, and the glands of the musk deer. Historical scripts of civilizations of ancient Mesopotamia, mainly the Assyrian and the Babylonian, contain descriptions of beeswax and honey, mongoose blood, turtle shell, fish oil, goat skin, bird excrement, and animal fat. In ancient China, among many other substances of animal origin, the glands of the musk deer were used. Hippocrates (460–377 BC) the Greek physician, the “father of medicine”, stated that the body has an inner adaptive or healing power. To strengthen this healing effects, he prescribed milk water (liquid whey) to his patients. It provided full biological activity and numerous health benefits. Hippocrates used among many other animal products like cattle milk, chicken eggs, mammal horns, and sea sponge as remedies. About one tenth of the therapies mentioned in Dioscorides (100 AD) *Materia Medica* were animal parts and their products. Early Arab and Muslim physicians such as Rhazes (864–930), Avicenna (980–1037), Al-Kindi (800–873), Al-Antaki (d.1599), Ibne Baitar (1197-1248) prescribed many animal-based treatments. These included camel milk, cattle fat, coral, crab, dog, fish stone, horse, lizard, medical skink, mouse, pearl, pigeon, rabbit, rhino and goat horns, scorpion, snake, squid, turtle, and wolf, and animal products such as honey, wax, milk, and eggs. About 10% of all the medicinal substances used in the Arab–Islamic world during the Middle Ages were of animal origin. Most animal products, such as milk, cheese, and honey, were used in the diet for the prevention and treatment of various diseases. Daud al-Antaki, who lived and practiced during the second half of the sixteenth century, mentioned in his book, *Tadhkirat Ulil-al-Bab* a number of animals and their products. Accordingly, the cow cheese was used to treat scabies, to relieve burning sensations in the urinary tract, to treat kidney problems, and as an aphrodisiac. For instance, its ashes were used to treat wounds; its liquids were used to eliminate scars; whereas its boiled body was used to treat swellings, throat infections, and racing heartbeat. The stinking bug, a common parasite at that time, was used to treat headaches, uterine problems, coughing, and fever, to dissolve kidney stones, and to open blocked a urinary tract. Preferably, there are abundant literatures regarding the processing

and uses of Maul-Jubn. Some important books were written and some were translated in this period which contain information about MaulJubn, like Bayaze Khas, Alqarabadeen, Qarabadeene Jadeed, Khazaen-ul Advia, Zakheera Sabit bin Qurrah, Qarabadeene Qadri and Tibbe Akbar etc .

Methods of Preparation of maul-jubn(milk water)

Maul-Jubn(whey) is prepared by curdling of the milk. The milk can be of any animal like cow , goat ,camel or buffallo, peferabally goats milk is taken according to unani claasical literatures. The pregnant goat or any pregnant animal is fed with cold temperament foods like palak (spinach), khurfa (purslane), and the animal shouldn't be kept in empty stomach. When the lamb or new born is born, its milk should not be used for the purpose of curdling (Maul-Jubn) before forty days. In few literature it has been mentioned that time period after one month till four months postpartum ,milk from such animal can be used for making maul- jubn or whey to gain maximum medicinal benifits. A specific quantity of milk is taken and boiled in a tin coated vessel, when it is boiled little quantity of lemon juice or vinegar is added for curdling of milk. Then removed from the fire and allowed to cool, after then it is sieved through a thick muslin cloth and thus the clean water obtained and is known as "MaulJubn)" or milk water .Maul-Jubn may be commonly prepared with the milk of camel, goat and paneer Mayah. But sometimes it is also prepared with Maul-Asal, Sharab Shirin and with the milk produced for first time after delivery with addition of Sikanjabeen or Sikanjabeen and Aabe Angoor Kham. Jalinoos stated in the chapter of "tadbeer-ul Asihha" that Maul-Jubn, because of its Jubuniyyat and Paneer Mayah, should be prepared with sikanjabeen, Maul-Asal, Sharab Shirin and with the milk excreted the first time. Hakeem Akbar Arzani in his book "Qarabadeene Qadri" described that there are three methods of preparation of Maul-Jubn by using milk and adding any of the three ingredient 1. sikanjabeen 2.Paneermaya 3.Makhze qurtum (Guizotia abyssinica)

It is prepared with Sikanjabeen. In this process, fresh milk is boiled in the vessel made of stone, sand or tin. If Sikanjabeen doesn't have the required acidity then Sirkah angoori, Aabe Nahoorah or Aabe Lemon water should be added for better result.

If it is prepared with Paneer Mayah, In this process milk is boiled , Paneer Mayah is added. After dissolving it in milk vessel is removed from the fire and allowed to cool, after then it is filtered or strained through a thick muslin cloth and thus the clean water is obtained and is known as "Maul-Jubn)" or milk water or whey.

When it is prepared with Maghze Qurtum(Guizotia abyssinica) . In this process Maghze Qurtum is taken and crushed properly then mixed with boiled milk. After mixing, the milk is stirred with fig wood or with branch of date tree. When the milk is curdled properly ,the solids and liquid part get separated it should be removed from the fire. Then it is stained with thick cloth after it is cooled.

Whey Composition

Whey is a fairly dilute product with a total solid of about 6-5%. As mentioned before the solids are basically consisted by lactose, whey protein, ash, lactic acid and fat .These all are present in variable range depending up on the type of milk taken and method of processing.

Uses:

Unani scholars prescribed and advised in several pathological conditions of body . These conditions are summarized as

1. Baraye Ishal(for the purpose of laxative action): Maul-Jubn is the best mushil (laxative) among all mushilat as it also provides nutrition with its purgative effect,
2. Haar Amraz (Acute diseases),
3. Saudawi Amraz (Melancholia),
4. Sozish,(burning sensation)
5. Sara (Epilepsy),
6. Juzam (Leprosy),
7. Daul-Feel (Filaria),
8. Yarqan (Jaundice)
9. Hirqat-e-Baul (Burning micturition),
10. Hasate Gurdah wa Masanah (Renal and Vesicular Calculus),
- 11.Quroohe Gurdah wa Masanah (Renal and Vesicular Ulcer/leisons)
- 12., Quroohe Khabeesah (non healing /canerous ulcer),
13. Zulmatul-Aain (Weakness of eye sight),
14. Shaqiqa (Migraine),
- 15.Istisqa (Ascites),
- 16.Hararate Jigar (liver heat),
- 17.Huzaal Kulliyya (Renal atrophy),
18. Kharish Khushk wa Tar (soothing effect on Dry and Wet Itching), and
- 19.Jha'een (Melasma).
- 20.Diseases of spleen

Mizaj (Temperament):

cool and moist

Muzir (side effects):

It causes obesity in the people with temperament of Haar and Yabis (Hot and Dry) . It favours obstruction and stone formation .

Musleh(corrective):

podeenah (Mentha arvensis)

Badal (substitute):

Haleelah (Terminalia chebula) and Shahitrah (Fumaria parviflora) (infusion) .

Miqdare Khoorak (Dose):

According to Diasqoreedoos 315 ml to 1260 ml (in divided doses) .It is taken as Luke warm drink in three divided doses. Physical exercise or walking is recommended after every dose of maul -jubn. It is better to use Maul-Jubn in spring season as mushil drugs are not prescribed in extreme hot and cold season.

In few literatures it has been mentioned that maul-jubn can be given via rectal route like enema for nutrional benefits in patients with poor oral tolerance or diseased gut.

It can be given as a single medicine or can be given as compound formulation by adding the required medicinal ingredients in it.

Precautions/Restrictions:

While taking Whey, milk products, Mughallizat (Inspissant to semen), Mubakkhirat (Flatulant), Halwah (Sweet), Acids and physical and mental activities like sex, exercise are avoided completely.

Some Important Activities of Whey

Research on Whey was conducted and a conclusion was made that the protein components of the whey include lactoferrin, beta-lacto-globulin, alphasalalbumin, glycol-macropetide, and immunoglobulin. Milk water has the ability to act as an antioxidant, antihypertensive, antitumor, hypolipidemic, antiviral, antibacterial and act as a chelating agent. The aim of this research was to scientifically establish the multifaceted usefulness of this by product .Whey from cow milk was subjected to physico -chemical characterization which revealed the presence of 89% protein, 46% carbohydrate, and high concentration of chloride, sodium and potassium ions and negligible fat. Therefore, whey is now considered as an ideal probiotic health drink. Whey showed antimicrobial potential against gram positive Staphylococcus aureus ATCC 6358p and gram-negative E. Coli NCIM 2065. Whey along with agar as a solidifying agent was used as basal growth medium for bacteria and fungi .

Conclusion

With the above explanation, we come to a conclusion that it is quite evident that Maul-Jubn (whey)has been in use since thousands of years in the Unani (traditiona) system of medicine. The analysis of its compositions shows that it has nutritional values along with medicinal properties. It is capable of, therefore utilized for maintaining health, prevention of diseases and also useful in curing certain diseases. Due to lack of knowledge, and scientific data it was considered to be a waste material, a bye product for a long period of time but recent scientific studies not only validated its usefulness but also emphasised on its nutritional as well as its medicinal values which was mentioned in classical Unani text and also added some latest information, to make it even more useful as prophylactic and therapeutic agent.

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