

## The formation and development of Mongolian Medicine before the 20th century

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### Abstract

This paper investigates the development process of Mongolian medicine. By the 13th century, Mongols had accumulated primitive medical knowledge and discovered and mastered early health care methods in its long struggle against nature, beasts, and disease. The early 13th century to the first half of the 19th century, on the basis of rich medical knowledge and experience, Mongolian medicine absorbed the medical theories of Han, Tibetan and Hui nationalities, and improved continuously in medical practice.

**Keywords:** history of science; Mongolian; medicine

## Introduction

Mongols, known as "mengwushiwei" in the old Tang Dynasty [1], are widely distributed in today's Inner Mongolia Autonomous Region and other provinces and regions. Mongolia has formed a unique Mongolian medicine [2], which has extremely rich medical and medical experience and its own unique and systematic theory.

### Accumulation and budding period (before the 13th century)

Before the 13th century, in the long-term struggle against nature, beasts and diseases, the Mongols accumulated primitive medical knowledge and found and mastered early medical and health care methods. According to Mongolian folklore, the earliest common disease is "Mashu" (meaning indigestion), and the earliest medicine is boiled water. The proverb says that "the beginning of the disease begins when you can't eat, and the source of medicine comes from baijianshui." This is a summary of the origin of medicine in the primitive era of Mongolia. The historical materials about Mongolian medicine scattered in Mongolian historical documents and other ethnic medical documents recorded the primitive medical activities closely related to the production and living conditions at that time. Such as: moxibustion, bloodletting, using whole sheep bone to supplement the body, using sour milk to treat poisonous snakes and rabies bites and other initial medical and health care experience.

Moxibustion is Mongolian moxibustion. As early as the 8th century, it was recorded in the "four medical codes" compiled by Tibetan medical expert Yutuo yuandangongbu (708-833 A.D.), namely "huole Moxibustion" [3], which is called "Mongolian Leyi tugna" in Mongolian, namely Mongolian moxibustion (or Mongolian fire moxibustion). Also remember "holler Moxibustion", which is a method of mixing butter (or cream) with fennel, then coating it on felt, heating and wrapping it on the moxibustion site [4]. This moxibustion device is simple to use and easy to operate. It is suitable for the production and life style of nomads and the cold and cool climate in the north. "Yutuo · Yuandan Gongbu" records: "the continuation of the medical order classic" said: "the external elimination of diseases first came into being in Mongolia, that is, bloodletting, moxibustion, cupping and so on" [4] and put forward the traditional external treatment in the early stage of Mongolian medicine.

Ancient Mongolian people used plants to treat diseases and gradually discovered Mongolian medicine. The earliest monograph of pharmacology in China, Shennong herbal classic, recorded the special drug *Cistanche deserticola* in Mongolia. The Mongolian working people invented a simple method of diet to treat diseases very early. Since ancient times, horse milk wine has been a dairy product used by nomads in the north. It can be used as a tonic and a medicine for miscellaneous diseases. As early as before the 13th century, the text of "every day will come and drink horse milk wine" [5], the ancestor of Genghis Khan for ten generations, was recorded in the secret history of Mongolia. It is recorded in the secret history of Mongolia that before the Yuan Dynasty, horse milk wine was used to treat patients with traumatic bleeding and fainting. In the "secret history of Mongolia" and other documents, there are records of the treatment of blood sores with a red soldering iron, the treatment of blood wounds with steam heat, and the treatment of arrow wounds with hot blood immersion. Later, these treatment methods gradually developed into the orthopedics and traumatology department of Mongolian medicine in practice.

Mongolian ministries believe in Shamanism. Shamanist witches who master medical skills have the phenomenon of the combination of medicine and witchcraft. For example, before the 12th century, Hongjila people suffered from a kind of "beriberi". At that time, shaman doctors believed that they suffered from this disease because they trampled on the "fire" and "stove" recklessly. The "Andai dance" that has been handed down to today evolved from the physical therapy and psychotherapy of ancient shaman wizards and wizards.

### Foundation laying and formation period (from the early 13th century to the first half of the 19th century)

In the 13th century, Tiemuzhen unified the Mongolian ministries. Mongolia's economic, cultural and other social undertakings have entered a new period of development. In the Ming and Qing Dynasties, on the basis of accumulating rich medical knowledge and experience, Mongolian medicine absorbed the medical theories of Han, Tibetan, Hui and other nationalities, continuously enriched and improved in medical practice, and Mongolian medicine began to take shape. The Mongolian Ba Si Ba Xin character was popularized in 1269. In this context, Mongolian medicine, which is still in its infancy, has entered a new stage of development.

In the practice of hunting and slaughtering livestock, the ancient Mongolian working people accumulated preliminary anatomical knowledge to explain the structure of the human body. There were many fractures and war injuries in Yuan soldiers, so multiple injuries, fractures, dislocations and concussion must be treated [6], and the study of human anatomy began. According to the biography of Zhao zaira in the history of the Yuan Dynasty, in the third year of Zhongtong (AD 1262), the Mongolian army zaira "did not draw the left shoulder of the arrow arrow, so the imperial inspection cherished its bravery. They took two death prisoners and sealed their shoulders. Depending on the depth of the bone joints, they knew it, that is to chisel their wounds. When the arrow was pulled out, the expression of the zaira did not move. [7]" the combination of trauma treatment and human anatomy increased the understanding of human structure, It promotes the development of orthopedics and traumatology. Orthopedics and traumatology used to have only experience in orthopedic treatment, but it has become a clinical discipline with rich clinical experience, and then spread to the mainland.

In the 13th century, Mongolian ancestors had mastered "skin therapy". "Skin therapy" is to kill livestock, that is, peel it, put it on the body or wrap it around the affected part for treatment [8]. Up to now, Mongolian people still use sheepskin and Aihu skin as "skin therapy". In addition, there are ways to kill cattle and bring the injured into the belly of cattle for first aid. For example, according to the biography of Li Ting in the history of the Yuan Dynasty, "the Fuzhong gun fell into the city, the arrow ran through the chest, and the Qi dropped. Bo Yan ordered to cut the buffalo's belly and accept it. It was su for a long time." It is also recorded in the biography of Yuan Shi Xie Zhongwen: "three days after the election, he rushed to the city. The Taizong saw and pitied him, ordered the military academy to pull out his arrow, bind the cow's intestines, and put it in the cow's belly naked. It was su for a long time".

Mongolian dietotherapy developed into dietotherapy in Mongolian medicine in the Yuan Dynasty. In the fourth year of Shun Dynasty (1330), Hu Sihui, a grand doctor of the Yuan Dynasty, wrote three volumes of "Yin Shan Zheng Yao". It is a relatively complete book on dietotherapy, which makes a comprehensive summary of dietotherapy before the Yuan Dynasty. This book describes a large number of nutritional knowledge in Mongolia, such as horse milk, milk, beef and mutton Bovine bone marrow, etc. There are also "ba'erbu soup (lamb leg broth)", "a ba'erhu fish (fish name)" and "Chi Chi Hana (sour thorn)" written in Mongolian translation for treatment. The book breaks through the way of dietotherapy, broadens the field of dietotherapy, and becomes a famous first step nutrition monograph in China. In the Yuan Dynasty, the treatment of mare's milk wine had further development in theory. "Lubluk's journey to the East" once recorded that "the sudden myth (i.e. horse milk wine) can last for a long time. It is said that it is nourishing and can cure the disease". "Yin Shan Zheng Yao" pointed out: "horse milk is cold, sweet, thirst quenching and heat treatment" [9]. This is similar to the "Theory of nature and taste" of *Materia Medica*, which shows that the communication and reference between traditional Mongolian medicine and traditional Chinese medicine are more in-depth [8].

During this period, therapeutic prescriptions also developed. Sade Mishi (word qianzhai), a Mongolian doctor, compiled the experience prescription of Ruizhu hall in Chinese, with a total of 15 volumes, which was written in 1326 or a little before. Written for the Traditional Mongolian medicine of the Yuan Dynasty [10]. There are famous prescriptions widely used so far, such as "Bazhen powder". The

relevant contents of ruizhutang experience prescription are cited in Puji prescription, compendium of *Materia Medica*, Xue Si medical case and the great success of North South experience medical prescription. The book was lost during the reign of Emperor Qianlong of the Qing Dynasty. The original prescription of Ruizhu hall, which was spread to Japan, has been well preserved and has been published in Japan.

Since the 13th century, medical exchanges with other ethnic groups, Islamic and European countries have increased day by day. Some drugs from the Central Plains and abroad have been introduced into Mongolia, and Mongolian drugs such as *Cistanche deserticola* have also been transported to the Central Plains and abroad. In the Yuan Dynasty, the Han "*Materia Medica*" was translated into Mongolian. The Yuan government set up Taiping Hospital, Guanghui department, Huihui Medicine Institute and other Arab medical institutions. In Dadu (now Beijing), there are Italians practicing medicine. At the same time, Mongolian orthopedics and traumatology were also introduced into the Central Plains, Tibet, Xinjiang and other fraternal ethnic areas.

Generally speaking, the formation of Mongolian medicine began in the second half of the 16th century [10], especially after Mongolian medicine absorbed the medical theories of Han and Tibetan Nationalities to enrich itself. Tibetan medicine was introduced into Mongolia with the spread of Lamaism. In 1573 ad (the first year of Wanli of emperor Shenzong of the Ming Dynasty), a Dahan converted to Lamaism, and a large number of yellow religions were introduced. The four medical classics of Tibetan medicine was also introduced. At the beginning of the 17th century, an Dahan presided over the translation of the Tibetan text ganjul Sutra in Mongolian, which contained a large number of Tibetan medical contents. In the 18th century, the four medical codes were translated into Mongolian and became the teaching scriptures of Mongolian Lama medical temples and the guide of Mongolian medicine to prevent and treat diseases. During this period, Mongolian medicine not only absorbed the theory and experience of Tibetan medicine, but also received the theoretical knowledge of Han, Hui and other brotherly ethnic medicine. Famous doctors in the Qing Dynasty translated Chinese medicine books such as compendium of *Materia Medica* and key points of production protection into Mongolian, and some of them were also printed and distributed.

On the basis of absorbing the theory that Tibetan medicine human body has three elements and seven substances, Mongolian medicine has formed the theory of "three elements" and "seven constants" in terms of basic theory. On the basis of absorbing the theory of Yin Yang and five elements in traditional Chinese medicine, this paper puts forward the unity of opposites between cold and heat and the theory of five elements. The essence of "three elements" is "Heyi" (Qi), Xiri (fire) and badakan (earth and water). Heyi is neutral, Xiri is Yang and badakan is Yin. Ternary is the basic material on which life depends. It has 20 properties and 5 functions respectively. Ternary is dependent, systematic and peaceful. If either side is prosperous or weak, it will lead to the imbalance between the three, resulting in diseases in the human body. Ternary is the main factor to maintain human life. Under pathological conditions, it is also the internal condition of human disease. "Qiheng" refers to the essence of diet, blood, meat, fat, bone, marrow and essence. It is the basic material constituting the human body. His physiological function is that his diet is subtle, which is the foundation of the day after tomorrow; Blood nourishes the whole body and moisturizes the body and skin; Meat is like a wall, which has a protective effect, and fat can grow color; Bone can support the body and is the support of the human body; Marrow to supply nutrition; Essence is the source of life and has the ability of reproduction and development. "Qiheng" and "ternary" are interdependent and jointly maintain the normal activities of the human body. The dialectical theory of six causes is a dialectical theory according to the cause of disease; The theory of Zang Fu organs and veins is a theoretical method of dialectics according to disease location; The unity of opposites between cold and heat is the general outline of dialectics. These theories discuss the physiological function of human body and the theoretical principles of syndrome differentiation and treatment.

This theory is discussed in medical books such as the renewal of Bailu medical method, the spring of sweet dew and the selected edition of Mongolian medicine in the early 17th century.

The diagnostic methods of Mongolian medicine include inquiry, observation and palpation, which are briefly referred to as "three diagnoses". In terms of treatment, the fundamental principle is to determine the treatment principle according to the diagnostic results, starting from the regulation of various factors in the body that have lost balance, and the dialectical relationship between treating the root cause and symptomatic symptoms. There are 10 methods of treatment, such as sweating, vomiting, descending, harmony, clearing, relieving, warming, tonifying, calming and nourishing. In addition, there are acupuncture, fire acupuncture, moxibustion, skin therapy, brain therapy, medicine bath, cerbicin therapy, blood therapy, bloodletting and other methods. Although most Mongolian medicines are the same as Tibetan medicine and traditional Chinese medicine, their production and processing methods are different. Mongolian medicine follows the principle of "According to people, time and place", and attaches importance to the authentic collection and processing of genuine medicinal materials [11]. Although most of them are the same as Tibetan medicine and traditional Chinese medicine, the methods of preparation and processing are different. They are characterized by fine preparation, multiple raw materials, small dosage, various dosage forms and convenient use. Such as hot, warm medicinal herbs in the sun or fire baked, cool, cold medicinal herbs blowing or dry in the shade. In the Mongolian medicine formula, very few medicinal herbs processing is also slightly simplified [12].

With the formation of the theoretical system of Mongolian medicine, the clinical medicine of Mongolian medicine is becoming more and more specialized, and the Department of orthopedics and traumatology has developed to a new level. The orthopedic surgeon received the femoral fracture and used hypothermic anesthesia during the operation. At this time, there were orthopedic doctor juero issana and surgical doctor Zorzi mergen. Its osteotomy entered the mainland and was granted to Russian students in Beijing in 1721. Mongolian osteotomy began in Russia. "Xiaoting miscellany" reads: "... The most famous one, juero isanga, started his career with bone setting and became a very rich man. To teach his disciples the method, first cut the pen guard for several sections and make him wrap the paper and rub it, so as to make it joint as if it had not been broken, and then connect the bone as if it had been done by the method. All of them worked well. In the 6th year of Yongzheng, OROS sent his disciples to school... He studied as a Mongolian bone setting doctor..." According to the records, volume 502 of the draft of the history of the Qing Dynasty also contains: "Ethan, in the reign of Emperor Qianlong, he started his career with bone setting... He taught his disciples the method of cutting pen tubes for several sections, wrapping them with paper, rubbing them, so that they can be joined together, if they are not broken, they will work like bone setting". These medical skills are the rich experience accumulated by Mongolian medicine in the treatment of injuries for a long time, and have a certain impact at home and abroad.

Many famous doctors and schools appeared in this period. Various schools have written books, and a number of 10 Mongolian medical works have been published. The clinical medicine, pharmacology and prescriptions of Mongolian medicine have been improved and discovered. Famous medical scientist, and Qinghai Mongolian medicine zhanbula in the 17th century; Ishbalajul, a Mongolian medical scientist in the 18th century; In the 19th century, Mongolian medicine accounted for bladorgi; Mongolian medical scientist Yuri gedandar et al. Clinical medical works mainly include the renewal of Bailu medical method, selected edition of Mongolian medicine, sweet dew drops, the joy of the viewer, coral prescription, etc. In Mongolian medicine, the drugs were enriched, the medication experience was improved, and the pharmacology was further developed. On the basis of accumulating rich knowledge of pharmacology and prescription, a variety of monographs have emerged. For example, FangHai, a great work of prescription science in the 17th century (written by zhanbula); The 18th century Mongolian pharmacy work "recognition

pharmacy" (written by Rob sangsule and wood); "White crystal medicine for drug identification" (written by ishbalajul); The canon of Mongolian medicine in the 19th century (written by Zhan Bula Daoerji), which contains 819 kinds of drugs and 576 drug illustrations, is a masterpiece of pharmacology.

During this period, we also paid attention to the cultivation of Mongolian medical talents and developed Mongolian medical education. In medical education, in addition to the form of teaching students by teachers, Mongolian medical schools have also been set up. Some monasteries have medical branches (Yaowang Temple) to train Buddhist and secular doctors. The way of teaching and medical transmission in the Branch Hospital of the hospital is to give lectures with disciples and groups. The learning contents are mainly medical scriptures and clinical experience, followed by Neiming (Buddhism), Yinming (Philosophy), astronomy, geography and other knowledge. The medical branch implements the apprenticeship system. Those who enter the school are apprentices, but those who hold the school are called "Menba". It takes four or five years to become an apprentice. Those who can master both classics and Astronomy and geography are called "preaching and cutting" because of Ming and prostitution. It will take 20 years. During this period, the temple trained a large number of Buddhist and secular doctors, which contributed to the development of Mongolian medicine.

### Conclusion

Before the 13th century, in the long-term struggle and war against nature and diseases, the Mongolian nation produced primitive medical activities, invented some medical methods, and had embryonic early medical knowledge and technology. From the 13th century, with the progress of Inner Mongolia society and the development of economy and culture to the Ming and Qing Dynasties, it has developed into a theoretical system with "ternary theory" as the main content, with unique clinical diagnosis and treatment technology and rich clinical experience.

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