

Comparative Study on the Application of Traditional Chinese Medicine and Mongolian Medicine

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Abstract: China is one of the countries with the most abundant and diverse traditional medicine in the world. Traditional Chinese Medicine (Han ethnic traditional medicine) and ethnic medicine (traditional medicine of various ethnic minorities) have made indelible contributions to the prosperity and reproduction of all ethnic groups over thousands of years. Different ethnic medicines have significant characteristics in medical theory, disease diagnosis and treatment techniques, and drug application. They have both similarities and differences. This article studies the sources, classification, growth environment, and collection of medicinal materials. Through comparative analysis of the processing, compatibility rules, formulation theory, medication contraindications, dosage and usage, preparations and applications, and clinical disease treatments of Chinese and Mongolian medicines, the article aims to deepen the understanding and recognition of Chinese and Mongolian medicines. This mutual learning and complementing each other's strengths is of profound significance for promoting the development of traditional medicine and the development of natural drugs, thus promoting traditional medicine to make greater contributions to human health.

Keywords: Traditional Chinese Medicine; Mongolian Medicine; Application; Comparison

1. Introduction

With the progress of society and the

improvement of living standards, people's requirements for physical fitness are also increasing. With the trend of "returning to nature," the demand for natural medicines and health products is growing, providing a favorable opportunity to promote the development of Traditional Chinese Medicine (TCM) and Mongolian Medicine. Since there are many intersections and differences between TCM and Mongolian Medicine in terms of origin and clinical application, it is essential to grasp this opportunity and promote development through comparative analysis. It is hoped that mutual learning and complementing each other's strengths will jointly promote traditional medicine to make greater contributions to human health.

2. Comparative Analysis of the Sources of Medicinal Materials

TCM resources mainly consist of plants, medicinal animals, and medicinal minerals. According to surveys, there are nearly 13,000 kinds of TCM resources in China, with medicinal plants accounting for about 87%, medicinal animals about 12%, and medicinal minerals less than 1%, with only more than 80 kinds, while there are about 500 commonly used TCMs [1].

According to statistics, there are more than 2,200 kinds of Mongolian Medicine resources, including more than 1,400 kinds of plant medicines (about 70%), more than 400 kinds of animal medicines (about 20%), more than 100 kinds of mineral medicines (about 5%), and more than 100 kinds of other medicines (about 5%); there are more than 400 commonly used Mongolian Medicines [2]. It

can be seen that TCM resources are relatively abundant, which is related to the widespread application of TCM in Han areas. However, in fact, it is difficult to completely distinguish Han people from other ethnic groups geographically, so the scope of TCM is relatively broad, including the traditional medicines used in some minority areas, that is, ethnic medicines. According to the "Inner Mongolia Materia Medica," out of 2,781 species of higher plants, 1,198 species can be developed and utilized as medicinal plants, of which 488 species are used in both TCM and Mongolian Medicine, with some similarities and differences in their properties and main treatments. Another 23 species are used only in Mongolian Medicine, making a total of 511 species used in Mongolian Medicine, accounting for about half of all species [3]. In summary, there are many overlapping species between TCM and Mongolian Medicine, both mainly plant medicines, which is related to the diverse species, wide distribution, and large reserves of wild medicinal resources. Through the statistics of various medicinal materials, it can be seen that in Mongolian Medicine, the proportion of animal and plant medicines and mineral medicines is much larger. The author of this article believes that this is closely related to the nomadic, dairy, and meat-based lifestyle of Mongolians, thus there is considerable research and practice in the use of veterinary medicines. There are also many mineral medicinal materials in Inner Mongolia, mainly including Maifanshi, salt, alkali, nitrate, gypsum, Han Shui Shi, Yuliang soil, dragon bone, dragon tooth, Glauber's salt, etc., so mineral medicines occupy a significant proportion in Mongolian Medicine.

3. Comparative Analysis of Drug Classification

The most common modern classification of Traditional Chinese Medicine (TCM) is based on efficacy, often divided into 21 categories: exterior-releasing medicines, heat-clearing medicines, purgative medicines, wind-dampness dispelling medicines, dampness-resolving medicines, diuretic dampness-percolating medicines, interior-warming medicines, qi-regulating medicines, digestive medicines, anthelmintic medicines, hemostatic medicines, blood-activating stasis-dispelling medicines,

phlegm-resolving cough-suppressing and panting-calming medicines, tranquilizing medicines, liver-pacifying wind-extinguishing medicines, orifice-opening medicines, tonic medicines, astringent medicines, emetic medicines, detoxifying insecticidal dampness-drying itch-relieving medicines, and toxin-pulling ulcer-generating medicines [4]. Modern Mongolian Medicine is also mostly classified by efficacy into 18 categories: Hehyi-suppressing medicines, Xieqi-clearing medicines, Badagan-dispelling medicines, blood disease-treating medicines, Xieqi-Use dispelling medicines, anthelmintic medicines, sticky-removing medicines, heat-clearing medicines, diuretic water-expelling medicines, accumulation-dissolving pi-breaking medicines, cough-suppressing phlegm-resolving panting-calming medicines, purgative medicines, diarrhea-stopping medicines, emetic medicines, tonic and invigorating medicines, wound-constraining medicines, and other kinds [5].

There are significant differences in the classification of TCM and Mongolian Medicine. TCM classification is more extensive and detailed, while Mongolian Medicine's classification method is more ethnically characteristic and emphasizes the pharmacological principles of Mongolian Medicine. Additionally, TCM also has classifications based on chemical composition, medicinal parts, and varieties; Mongolian Medicine classifies them according to their position in the natural environment, reflecting the scientific refinement in the process of modern scientific development.

4. Comparative Analysis of Growth Environment and Collection

China spans the frigid temperate zone, temperate zone, subtropical zone, and tropical zone. Due to the influence of topography, soil, water, and other factors, there are significant differences in climatic conditions across China. Under different ecological conditions such as climate, light, and biological distribution areas, there is considerable diversity, resulting in rich medicinal material resources. Suitable ecological conditions have created numerous authentic and precious TCMs, such as *Achyranthes bidentata*, *Rehmannia glutinosa*, and *Dioscorea opposita* from Huaqing City, Henan; *Chuanxiong* from Guanyan County,

Sichuan; Rheum from Qinghai, Xining; and Panax ginseng from Jilin, Fuchun. These are favored by doctors for their good therapeutic effects. Inner Mongolia is a typical region in the mid-temperate zone, with scarce and unevenly distributed rainfall, and strong seasonal changes. Winters are cold and long, while summers are short and warm. A considerable proportion of medicinal materials in Mongolian Medicine are adapted to the geographical environment and resource conditions. According to multiple literature compilations and field investigations of Mongolian medicinal material resources since the founding of the People's Republic of China, 50% of the medicinal materials used in Mongolian Medicine are distributed and grown within Inner Mongolia [6]. Authentic Mongolian Medicine raw materials mainly come from the Inner Mongolia Plateau and Qinghai, such as Aconitum, Aconitum, Aconitum, and Dracocephalum. Desert plants are more characteristic, such as Polygonum divaricatum, Cynomorium, Cistanche, and Swertia. The use of these in other countries' medicine has not yet been documented. The herb resources in Inner Mongolia are significant, with Ephedra being the most prevalent, followed by Astragalus, which accounts for about 70% of the national production.

Due to its vast geographical location and variable climate, TCM is much larger in quantity and variety compared to Mongolian Medicine. The geographical location and natural conditions of Inner Mongolia determine its advantages and strengths. In the process of medicinal collection, both TCM and Mongolian Medicine emphasize the timing and methods of collection and preparation to impact the quality of medicinal materials.

5. Comparative Analysis of Drug Processing

In terms of the purpose of processing, both TCM and Mongolian Medicine aim to eliminate or reduce the toxicity of drugs, appropriately change the properties of drugs, moderate or enhance the efficacy of drugs, facilitate preparation and storage, and remove impurities [7]. The methods of TCM processing mainly include cleaning and cutting (including purification, pulverization, and cutting), water processing (including rinsing, soaking, moistening, spraying, and floating),

fire processing (including frying, roasting, calcining, baking, and simmering), water and fire processing (including steaming, boiling, quick frying, and quenching), as well as frosting, fermentation, refining, germination, and drug mixing. The processing methods of Mongolian Medicine mainly include cleaning, cutting, and processing; processing also includes water processing (soaking and floating), fire processing (frying, calcining, baking, simmering, and melting), water and fire processing (steaming and boiling); and other methods like grinding and frosting [8].

It can be seen that there are many similarities in the processing methods of TCM and Mongolian Medicine, with the difference lying in the auxiliary materials used, such as honey, wine, vinegar, ginger juice, saltwater, and children's urine. For example, Mongolian Medicine includes using milk-soaked Polygonatum, yogurt-processed Aconitum, and butter-processed Canavalia. To ensure the efficacy and safety of both TCM and Mongolian Medicine, it is necessary to strictly control their production, processing, and standardization.

6. Comparative Analysis of Compatibility Rules and Formulation Theories

The specific compatibility methods of TCM include seven kinds: single application, mutual enhancement, mutual assistance, mutual restraint, mutual inhibition, mutual antagonism, and mutual opposition. Formulation follows the principle of "monarch, minister, assistant, and guide." The formulation of Mongolian Medicine also follows this principle, but it differs significantly from TCM. In Mongolian Medicine, not all formulations require all four roles, and the number of flavors in the formula is not fixed but determined based on the nature of the disease [9]. Generally, the rough guidelines are: for treating mild diseases, the prescription consists of 1 monarch drug, 1 minister drug, 2 assistant drugs, and 3 guide drugs; for treating moderate diseases, the prescription consists of 1 monarch drug, 1 minister drug, 3 assistant drugs, and 5 guide drugs; for treating severe diseases, the prescription consists of 2 monarch drugs, 2 minister drugs, 5 assistant drugs, and 9 guide drugs [10]. Therefore, Mongolian Medicine prescriptions often consist of 7, 10, or 18 flavors. This compatibility rule is simple and

applicable, distinguishing the severity of diseases, which is a major feature of Mongolian Medicine. The specific formulation methods mainly include property and flavor formulation, function formulation, and the "three transformation flavors" formulation. For example, the function formulation is based on the function of the drugs, selecting those that correspond to the disease, which includes the meanings of mutual enhancement and mutual assistance, but its refinement is not as detailed as in TCM.

7. Comparative Analysis of Medication Contraindications

In TCM, medication contraindications mainly include the "eighteen incompatibilities," "nineteen antagonisms," syndromes, pregnancy, medication, and dietary contraindications. In contrast, there is no summarized experience of incompatibility contraindications in Mongolian Medicine. This is primarily due to differences in ethnic medicinal resources, disease distribution in ethnic regions, and drug usage customs. Therefore, the contraindications of the "eighteen incompatibilities" and "nineteen antagonisms" can serve as references for guiding the clinical use of Mongolian Medicine. Moreover, Mongolian Medicine has its own unique medication contraindications, which are ethnically characteristic. For example, patients with heart disease are prohibited from using sheep milk powder. Although the scientific basis for this needs further exploration, it can be used as a reference for dietary contraindications when using TCM.

8. Comparative Analysis of Dosage and Administration

The measurement units for TCM include weight units such as traditional Chinese units: jin, liang, qian, fen, li; and metric units: kilogram (kg), gram (g), milligram (mg); and quantity units such as pieces, strips, tablets, branches, angles, and units. Except for highly toxic drugs, severe drugs, refined drugs, and certain precious drugs, the usual oral dose of general TCM is about 5-10g; some commonly used drugs have a larger dose, ranging from 15-30g; fresh drugs usually range from 30-60g. TCM is generally used in clinical practice in the form of compound prescriptions composed of various single-flavor Chinese medicines

[11]. The timing of TCM administration includes before meals, after meals, on an empty stomach, two hours before the onset of malaria for malaria treatment, before bedtime, and at irregular times. Mongolian Medicine is often used in clinical practice in the form of fixed compounds, with units of measurement mostly in grams (g), and the dosage ratios of the drugs are generally fixed and cannot be arbitrarily changed once determined. Common forms of Mongolian Medicine include pills and powders. For adults, the dose for decoctions is 3-5g per dose; for powders, it is 1.5-3g; and for pills, it is 1.5-3g (except for those containing toxic narcotic drugs). The administration times mainly include: on an empty stomach in the morning, before meals, during meals, after meals, between meals, alternating food and medicine, irregular multiple times, combining medicine and food, and in the evening.

Therefore, it is evident that there are significant differences in the dosage and usage of Chinese medicine and Mongolian medicine, which are related to factors such as usage habits and methods. Traditional Chinese patent medicines often use single-ingredient formulations, making their dosage units more refined. However, Mongolian medicine commonly uses fixed compound preparations in clinical practice, with the dosage in the prescription already determined, making the usage dosage relative. Therefore, the use of Chinese and Mongolian medicines also differs greatly. For example, traditional Chinese medicinal decoctions can be prepared using various methods such as decocting first, adding later, wrapping, separately decocting, dissolving, soaking, and infusing, while Mongolian medicine generally uses a simple boiling method, sometimes with milk or bone broth. Mongolian medicine has a higher proportion of mineral and animal drugs, whereas Chinese medicine primarily uses plant drugs. Additionally, the duration of medication is similar, but Mongolian medicine emphasizes the timing of medication, often taking 2-3 types of drugs per day, which is a significant feature of Mongolian medicine. In contrast, traditional Chinese medicine often uses a compound that can be used continuously for several days, which aligns with the indications of Chinese medicine.

9. Comparative Analysis of Formulations and Applications

In terms of dosage forms, both Chinese and Mongolian medicines have their unique features. Traditional Chinese medicine (TCM) dosage forms include pills, powders, ointments, elixirs, decoctions, drinks, wines, distillates, and more. In addition to traditional techniques, TCM continuously incorporates modern pharmaceutical technology to develop new dosage forms such as tablets, capsules, syrups, instant powders, pills (including concentrated and dripping pills), lozenges, teas, injections, films, aerosols, topical ointments, bath agents, nasal drops, eye drops, suppositories, thread agents, strip agents, and nail agents. Mongolian medicine's traditional dosage forms mainly include decoctions, powders, pills, ointments, wines, oils, ashes, mixtures, herbal agents, and mineral agents, totaling 10 types [12]. In recent years, various new dosage forms have been developed using modern pharmaceutical methods, such as granules, ointments, capsules, tablets, rubber plasters, injections, enemas, and lotions. Nearly all of the more than 80 Mongolian medicine hospitals at various levels in the Inner Mongolia Autonomous Region have their own Mongolian medicine preparation rooms to meet their medication needs. Common preparations based on traditional Mongolian formulation theories include decoctions, powders, and pills, such as Sanhong Decoction, Jianghuang-4 Flavor Decoction, Guriguomu-8 Flavor Powder, and Zhenbao Pills. Additionally, there are auxiliary dosage forms such as oil preparations, mixtures, ashes, ointments, and wines [13]. Less commonly used forms include suppositories, enemas, nasal drops, and lotions.

There are evident differences between traditional formulations of Chinese medicine and Mongolian medicine, which may be related to factors such as social and economic development, people's usage methods, and the types of diseases treated. Although both are decoctions, the dosage and effects of Chinese and Mongolian medicines are vastly different. For example, commonly used Mongolian decoctions are boiled with water, milk, or bone broth but only once, whereas traditional Chinese herbal decoctions are usually decocted twice [14], reducing resource consumption. As the pharmaceutical industry

develops, research on dosage forms of traditional Chinese and Mongolian medicines is expanding, increasingly meeting the needs of modern medical development. However, currently, the research and development of Chinese medicine are progressing rapidly, while the development of new Mongolian medicines is relatively slow and still in its initial stages, lacking new drugs such as injections, fast-acting, long-acting, and sustained-release formulations.

10. Comparative Analysis of Clinical Disease Treatment

Due to different geographical locations and disease spectrums, Chinese and Mongolian medical systems have their respective advantages in treating specific diseases. For example, Chinese medicine is particularly effective in treating chronic diseases such as infectious and viral hepatitis, influenza, chronic viral hepatitis, menopausal syndrome, and hypotension. Mongolian medicine, on the other hand, excels in treating cardiovascular and cerebrovascular diseases such as coronary heart disease, stroke, and arrhythmias; hemorrhagic diseases including anemia and thrombocytopenic purpura; rheumatism, rheumatoid arthritis, indigestion, gastric ulcers, gastritis, dysentery, nephritis, nephrotic syndrome, and other urinary system diseases; and is adept at treating various gynecological and neurological conditions. Both medical systems should absorb each other's characteristics and advantages to broaden the medical field and better serve the health needs of the people.

11. Discussion

In summary, based on years of clinical experience, Chinese and Mongolian medicine have developed a comprehensive understanding of the efficacy of their respective medicines according to their theories. For example, in Chinese medicine, cinnamon can tonify kidney yang, benefit essence and blood, and moisten the intestines to promote bowel movement, while in Mongolian medicine, it is mainly used to treat spleen and stomach disorders. In Chinese medicine, burdock fruit has the effects of dispersing wind-heat, detoxifying, promoting rashes, and relieving sore throat, while Mongolian medicine considers it effective for

reducing mass and promoting diuresis. These insights have led to new medical applications for both Chinese and Mongolian medicine, expanding their use in clinical settings. In terms of origin and processing, both Chinese and Mongolian medicine need to further advance towards standardization and normalization. Medication methods should strive to be scientific, maintaining stable blood drug concentrations to facilitate disease recovery. The timely adoption of modern extraction and formulation techniques will promote the development of new high-tech natural drugs. It is essential to center on clinical practice, learning from each other's effective medication experiences to enhance disease prevention and treatment capabilities. By complementing each other's strengths, we can fully leverage the advantages of Chinese medicine resources, expand clinical diagnostic and treatment fields, and strengthen research on difficult and functional diseases, thereby promoting the healthy development of traditional medicine.

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