Research Progress on the Mongolian Medicine 'Siwei Tumu Xiang San'

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Abstract: This paper investigates the origin, formula analysis, chemical components, pharmacological effects, and clinical applications of the Mongolian medicine 'Siwei Tumu Xiang San,' providing a scientific basis for further research and utilization of this medicine. Through literature review methods, the origin, formula analysis, pharmacological effects, and clinical applications of 'Siwei Tumu Xiang San' are summarized. 'Siwei Tumu Xiang San' originates from "Medical Canon of the Eight Branches" and is a traditional Mongolian medicine formulation. The formula consists of powdered mixtures of Tumu Xiang (200g), Bitter Ginseng (200g), Climbing Raspberry (100g), and Galangal (50g). Clinically, it is used to treat early-stage febrile diseases characterized by chills, fever, headache, cough, sore throat, and chest and hypochondriac pain. 'Siwei Tumu Xiang San' has shown significant efficacy in treating febrile diseases and is worthy of further exploration and research.

Keywords: Siwei Tumu Xiang San; Formula Origin Investigation; Formula Analysis; Chemical Components; Pharmacological Effects; Clinical Applications

1. Introduction

Siwei Tumu Xiang San is a compound preparation of Mongolian medicine included in the Pharmacopoeia of the People's Republic of China[1]. It is a powdered formulation composed of four medicinal ingredients: Tumu Xiang, Bitter Ginseng, Climbing Raspberry, and Galangal. This formula has the effects of clearing epidemic toxins, promoting the maturation of febrile and epidemic diseases, balancing "He Yi," and regulating blood disorders. It is used for immature fevers, epidemic fevers, void fevers, Bao Ri's "Badagan," "He Yi" blood imbalance, blood pain, and colds. These uses have been documented in classical Mongolian medical texts. Based on Mongolian medical literature and clinical application characteristics, this paper conducts an origin investigation and formula analysis, explaining the origin of each individual herb to improve the clinical efficacy and safety of this Mongolian compound preparation.

2. Nomenclature Investigation of Siwei Tumu Xiang San

Siwei Tumu Xiang San consists of four medicinal ingredients: 200g of Tumu Xiang, 200g of Bitter Ginseng, 100g of Climbing Raspberry, and 50g of Galangal. The formula is named "Siwei Tumu Xiang San" because Tumu Xiang is the primary component. Its Mongolian name is "Manuxitang," also known as "Chagan Soup." "Chagan" is a Mongolian word that translates to "white" in Chinese, hence the decoction's white color gives it the name "Chagan Soup," which means "white soup."

3. Origin Investigation of Siwei Tumu Xiang San

Siwei Tumu Xiang San, also known as "Manuxitang" in Mongolian medicine, is a powdered formula composed of Tumu Xiang, Bitter Ginseng, Climbing Raspberry, and Galangal. It is a well-known and cost-effective formulation frequently used in medical institutions.

Siwei Tumu Xiang San is commonly used in

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clinical settings to treat colds, viral hepatitis, febrile diseases, and wind-related conditions. The Standards of Inner Mongolia Mongolian Medicines[2] records that the formula consists of four medicinal ingredients: 200g of Tumu Xiang, 200g of Bitter Ginseng, 100g of Climbing Raspberry, and 50g of Galangal, which have the function of clearing febrile toxins. It is mainly used to treat the early stages of febrile diseases, including fever and chills, headache, cough, sore throat, and chest and hypochondriac pain. Due to differences in the inheritance of Mongolian medical texts and variations in clinical medication practices, the formulation of the traditional Mongolian prescription Siwei Tumu Xiang San has undergone changes. In some regions, Kwanjin Vine (de-skinned and de-cored) is used as a substitute for Bitter Ginseng, dried ginger replaces Galangal, and Pearl Reed replaces Climbing Raspberry.

4. Formula Analysis of Mongolian Medicine Siwei Tumu Xiang San

Siwei Tumu Xiang San is a neutral formulation used for treating immature fevers. In this formula, Tumu Xiang serves as the principal ingredient due to its ability to clear "Badagan" heat, remove "He Yi" blood congestion, warm the stomach, aid digestion, stimulate appetite, and alleviate stabbing pain. Bitter Ginseng acts as an assistant ingredient, promoting sweating, hastening the maturation of heat, drying "Xieri Wusu," expelling rashes, and harmonizing the body. Climbing Raspberry detoxifies epidemic heat, relieves cough, and harmonizes the body's functions. Galangal acts as an adjuvant, removing "Badagan-He Yi," warming the stomach, and promoting blood circulation to resolve stasis. Together, these ingredients exert the combined effect of clearing epidemic toxins and relieving exterior syndromes.

Tumu Xiang is the dried root of Inula helenium L., a member of the Asteraceae family, and is known in Mongolian medicine as "Manu," also referred to as Manubadala in The Unerring Mongolian Medicine Identification[3], Gaoyou-Heladestu-Qiqige, Gaoyou-Alatan-Dausile-Qiqige in Mongolian Medicine Records[4]. It is a commonly used heat-clearing drug in Mongolian medicine, characterized by sweet, bitter, and pungent flavors with a neutral nature, having greasy, sharp, drying, and heavy properties. Tumu Xiang is effective in clearing "Badagan" heat, resolving Qi and blood congestion, warming the middle Jiao, aiding digestion, strengthening the spleen, stimulating appetite, and alleviating stabbing pain. It is primarily used to treat immature fevers, cold-induced headaches, nausea, chills, "He Yi" blood-induced chest tightness and shortness of breath, and loss of appetite. The roots of Tumu Xiang contain inulin, volatile oils, including alantolactone, isoalantolactone, dihydroisoalantolactone, alantic acid, alantol, and triterpenoid components[5]. Pharmacological studies have shown that Tumu Xiang possesses anti-tumor, antibacterial, anti-inflammatory, anthelmintic, analgesic, hepatoprotective, and hypoglycemic activities.

Bitter Ginseng[6], the dried root of Sophora flavescens Ait., a member of the Fabaceae family, is known in Mongolian medicine as "Daoguluwusu," also referred to as Liderei in The Unerring Mongolian Medicine Identification[3]. It has a bitter taste, neutral nature, and greasy, soft properties. Bitter Ginseng is effective in clearing heat, promoting sweating, harmonizing the body, and drying dampness. It is primarily used to treat immature fevers, epidemic fevers, "He Yi" heat, Taolai, Huru Hu, Xieri Wusu diseases, and unresolved rash toxins. The primary chemical constituents of Bitter Ginseng include alkaloids, flavonoids, phenylpropanoids, and terpenoids, with matrine and oxymatrine being the main active components[7]. Bitter Ginseng exhibits various pharmacological activities, including anti-arrhythmic, anti-myocardial fibrosis, anti-tumor, anti-inflammatory, antimicrobial, hepatoprotective, and modulation of the immune and nervous systems.

Climbing Raspberry[8], the dried stems and branches of Rubus sachalinensis Leveille, a member of the Rosaceae family, is known in Mongolian medicine as "Borele Jigune," also referred to as Gandagari, Sengcir, Araselen-Uru Jigesu in The Unerring Mongolian Medicine Identification[3], and Bul-Borele Jigune, Chagan-Borele Jigune, Chagan-Gandagari in Materia Medica[9]. It has a sweet and slightly pungent taste, neutral nature, and soft properties. Climbing Raspberry is effective in detoxifying epidemic

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heat, relieving cough, and regulating body functions. It is used to treat early-stage febrile diseases, latent heat, colds, chronic lung heat, cough, excessive phlegm, shortness of breath, and difficulty in expectorating phlegm. The chemical constituents of Climbing Raspberry mainly include flavonoids, terpenoids, sterols, polyphenols, lignans, and organic acids. It possesses biological activities such as antibacterial, hypoglycemic, anti-inflammatory, antioxidant, analgesic, immune regulation, and anti-tumor effects.

Galangal[10], the dried rhizome of Kaempferia galanga L., a member of the Zingiberaceae family, is known in Mongolian medicine as "Chagangga," also referred to as Ganza in The Unerring Mongolian Medicine Identification[11]. It has a pungent, bitter, and astringent taste, warm nature, and light, sharp, dry, and rough properties. Galangal is effective in removing "Badagan-He Yi," warming the middle Jiao, and promoting blood circulation to resolve stasis. It is primarily used to treat chest and diaphragm distention, cold pain in the epigastrium and abdomen, and indigestion. The chemical constituents of Galangal include kaempferol and kaempferide, and the rhizome contains ethyl p-methoxycinnamate, borneol[12]. Galangal exhibits biological activities such as antibacterial, effects on the immune system, and protection against cerebral ischemia.

5. Chemical Components of Mongolian Medicine Siwei Tumu Xiang San

Li[13] using high-performance liquid chromatography (HPLC) combined with quadrupole-electrostatic field orbitrap high-resolution mass spectrometry (Q-Exactive-MS/MS), identified the chemical components of Siwei Tumu Xiang San. The study confirmed 110 chemical components, with 31 compounds being reported for the first time in this formulation or related studies. These chemical components are primarily derived from the four core medicinal herbs in the formula: Tumu Xiang (Inula helenium L.), Bitter Ginseng (Sophora flavescens Ait.), Climbing Raspberry (Rubus sachalinensis Leveille), and Galangal (Kaempferia rotunda L.). Tumu Xiang contains 16 compounds, including 3 sesquiterpene lactones. Bitter Ginseng contains 62 compounds, including 16 alkaloids and 38 prenylated flavonoids. Climbing Raspberry contains 30 compounds, including 4 flavonoid glycosides, 12 triterpenoid saponins, and 1 catechin compound. Galangal contains 2 compounds. See Table 1, Table 2, Table 3, and Table 4[13-25].

Table 1. Chemical Components Derived from Tumu Xiang

No.	Compound Name	Molecular Formula	Molecular Weight	Reference
1	Isoalantolactone	$C_{15}H_{20}O_2$	233.1536	14
2	Alantolactone	$C_{15}H_{20}O_2$	233.1536	14
3	-	$C_{15}H_{20}O_3$	249.1485	14
4	AtractylenolideI	$C_{15}H_{18}O_2$	231.1379	14
5	Arginine	$C_6H_{14}N_4O_2$	175.1189	14
6	MahuanninG	$C_{23}H_{27}O_{15}$	543.1344	14
7	Gentiatibetine	$C_9H_{11}O_2$	166.0862	14
8	Elgonica-dimerA[gao]	$C_6H_8O_7$	191.0197	14
9	Sucrose	$C_{12}H_{22}O_{11}$	341.1089	14
10	Stachyosetetrahydrate	$C_{24}H_{42}O_{21}$	665.2148	14
11	Verbascose	$C_{30}H_{52}O_{26}$	827.2674	14
12	Chlorogenicacid	$C_{16}H_{18}O_9$	353.0878	14
13	Neochlorogenicacid	$C_{16}H_{18}O_9$	353.0878	14
14	Taraxacolid-glucapyranoside	$C_{21}H_{34}O_9$	429.2130	14
15	Artemisitene	$C_{15}H_{20}O_5$	279.1237	13
16	ArtemisiteneStereoisomer	$C_{15}H_{20}O_5$	279.1237	13

Table 2. Chemical Components Derived from Bitter Ginseng

No.	Compound Name	Molecular Formula	Molecular Weight	Reference
1	Oxymatrine	$C_{15}H_{24}N_2O_2$	265.1910	15,16,21
2	Oxysophocarpine	$C_{15}H_{22}N_2O_2$	263.1754	15,16,21
3	N-methylcytisine	$C_{12}H_{16}N_2O$	205.1335	15

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4	Matrine	$C_{15}H_{24}N_2O$	249.1961	15,16,21
5	9α-hydroxysophoramine	$C_{15}H_{20}N_2O_2$	261.1597	15,16
6	Anagyrine	$C_{15}H_{20}N_2O$	245.1648	15,16
7	-	$C_{15}H_{24}N_2O_3$	281.1859	13
8	SophoranolN-oxide	$C_{15}H_{24}N_2O_3$	281.1859	15
9	-	$C_{15}H_{24}N_2O_3$	281.1859	13
10	5α,α-dihydroxymatrine	$C_{15}H_{24}N_2O_3$	281.1859	15
11	-	$C_{15}H_{24}N_2O_3$	281.1859	13
12	12α-hydroxysophocarpine	$C_{15}H_{22}N_2O_2$	263.1762	15
13	9α-hydroxysophocarpine	$C_{15}H_{22}N_2O_2$	263.1762	15,21
14	5α-hydroxysophocarpine	$C_{15}H_{22}N_2O_2$	263.1762	13
15	Isosophocarpine	$C_{15}H_{22}N_2O$	247.1804	15
16	5,6-dehydrolupanine(-)	$C_{15}H_{22}N_2O$	247.1804	13
17	Isoxanthohumol	$C_{21}H_{22}O_5$	353.1383	17
18	7-methoxy-4'-hydroxy-isoflavone	$C_{16}H_{12}O_4$	267.0662	13
19	Stereoisomer of formononetin	$C_{16}H_{12}O_4$	267.0662	13
20	Stereoisomer of formononetin	$C_{16}H_{12}O_4$	267.0662	13
21	Formononetin	$C_{16}H_{12}O_4$	267.0662	16,17
22	Maackiain	$C_{16}H_{12}O_5$	283.0611	16,17
23	Stereoisomer of calycosin	$C_{16}H_{12}O_5$	283.0611	13
24	Stereoisomer of calycosin	$C_{16}H_{12}O_5$	283.0611	13
25	Stereoisomer of calycosin	$C_{16}H_{12}O_5$	283.0611	13
26	Calycosin	$C_{16}H_{12}O_5$	283.0611	16,17
27	Stereoisomer of calycosin	$C_{16}H_{12}O_5$	283.0611	13
28	Stereoisomer of calycosin	$C_{16}H_{12}O_5$	283.0611	13
29	Stereoisomer of calycosin	$C_{16}H_{12}O_5$	283.0611	13
30	Kushenol O	$C_{27}H_{30}O_{13}$	561.1613	16
31	7-hydroxy-3''-methoxy-isoflavone-7-primeveroside	$C_{27}H_{30}O_{13}$	561.1613	16
32	Kuraridine	$C_{26}H_{30}O_6$	437.1969	17,18,19
33	Isokuraridine	$C_{26}H_{30}O_6$	437.1969	17,18,19
34	8-lavandulyl kaempferol	$C_{26}H_{30}O_5$	421.2020	13
35	-	$C_{26}H_{30}O_5$	421.2020	13
36	KushenolR/KushenolU	$C_{26}H_{30}O_5$	421.2020	17
37	Kushenol G	$C_{26}H_{32}O_8$	455.2075	13
38	Sophoraisoflavanone A	$C_{21}H_{22}O_6$	369.1343	20
39	(2R,3R)-8 isopentenyl -7,4′ - dihydroxy -5 –methoxy dihydroflavonol	$C_{21}H_{22}O_6$	369.1343	20
40	2′-hydroxyl-isoxanthohumol	$C_{21}H_{22}O_6$	369.1343	20
41	Kushenol N	$C_{26}H_{30}O_7$	435.1918	17
42	Demethylxanthohumol	$C_{20}H_{20}O_5$	339.1238	17,19
43	Kushenol S	$C_{20}H_{20}O_5$	339.1238	20
44	Norkurarinone	$C_{25}H_{28}O_6$	423.1813	17
45	2′-Methoxykurarinone	$C_{27}H_{32}O_6$	451.2126	18
46	Kushenol L	$C_{25}H_{28}O_7$	439.1745	16
47	Neokurarinol	$C_{27}H_{32}O_7$	467.2075	13
48	Neokurarinol	$C_{25}H_{30}O_7$	441.1918	13
49	leachianone G	C20H20O6	355.1187	20
50	leachianone G Stereoisomer	$C_{20}H_{20}O_6$	355.1187	13
51	5-Methylkushenol C	$C_{27}H_{32}O_6$	451.2126	13
52	(R)-naringenin/ naringenin	$C_{15}H_{12}O_5$	271.0611	13
53	Kushenol H/ Kushenol K	$C_{26}H_{32}O_8$	471.2024	17
54	Kushenol H/ Kushenol K	$C_{26}H_{32}O_8$	471.2024	17
55	3' -hydroxyl -4' -Methoxy - Isoflavones-7-O-β-D-Celery-(1 → 6)-β-D-glucopyranoside	$C_{27}H_{30}O_{14}$	577.1562	13
56	3' -Methoxy -4' -hydroxyl - Isoflavones -7 -O -β-D -Celery -(1 → 6)-β-D-glucopyranoside	$C_{27}H_{30}O_{14}$	577.1562	13
57	3'-hydroxy kushenol O	$C_{27}H_{30}O_{14}$	577.1562	19
58	5 -hydroxyl -4' -Methoxy - Isoflavones-7-O-β-D-Celery-(1 → 6)-β-D-glucopyranoside	$C_{27}H_{30}O_{14}$	577.1562	13
59	5-Hydroxy-2-(4-hydroxyphenyl)-4-oxo-4H-chromen-7-yl 2 -O -[(2S,3S,4R) -3,4 -dihydroxy-4- (hydroxymethy)tetrahydro -2 -furanyl] -β -D -glucopyranoside	$C_{26}H_{28}O_{14}$	563.1406	13
60	-	$C_{26}H_{32}O_8$	471.2024	13
61	-	$C_{26}H_{32}O_8$	471.2024	13
62	Apiin	$C_{26}H_{28}O_{14}$	563.1406	13

Table 3. Chemical Components Derived from Climbing Raspberry

No.	Compound Name	Molecular Formula	Molecular Weight	Reference
1	Euscaphic acid	$C_{30}H_{48}O_5$	487.3428	13
2	2α,19α -Dihydroxyl -Usu -2 -	$C_{30}H_{46}O_5$	485.3272	13

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	ketone-12-alkene-28-acid			
3	2α,19α -Dihydroxyl -Usu -12 -alkene-28-acid	$C_{30}H_{48}O_4$	471.3479	13
4	Gallic acid	$C_7H_6O_5$	169.0142	22
5	Caffeic acid	$C_9H_8O_4$	179.0349	23
6	Trans-caffeic acid	$C_9H_8O_4$	179.0349	23
7	P-Hydroxycinnamic acid	$C_9H_8O_2$	163.0406	24
8	4-Methoxyphenylacetic acid	$C_9H_{10}O_3$	165.0557	24
9	Queretin	$C_{15}H_{10}O_7$	301.0353	24
10	Morin	$C_{15}H_{10}O_7$	301.0353	13
11	Kaempferol	$C_{15}H_{10}O_6$	285.0404	24
12	Quercetin-3-O-α -L-glucose	$C_{22}H_{22}O_{11}$	461.1089	13
13	-	$C_{22}H_{22}O_{11}$	461.1089	13
14	Cis-tiliroside	$C_{30}H_{26}O_{13}$	593.1300	13
15	Tilliroside	$C_{30}H_{26}O_{13}$	593.1300	13
16	-	$C_{25}H_{26}O_{12}$	517.1351	13
17	-	$C_{25}H_{26}O_{12}$	517.1351	13
18	-	$C_{30}H_{36}O_{11}$	571.2184	13
19	Apigenin-7-O-glucoside	$C_{21}H_{20}O_{10}$	431.0983	13
20	Kaempferol 3 -O -BETA -D - sophoroside	$C_{27}H_{30}O_{16}$	609.1461	13
21	Kaempferol 3 - (6 -O - glucopyranosylglucoside)	$C_{27}H_{30}O_{16}$	609.1461	13
22	Luteolin-3',7-diglucoside	$C_{27}H_{30}O_{16}$	609.1461	13
23	Kaempferol-3,7-di-o-glucoside	$C_{27}H_{30}O_{16}$	609.1461	13
24	Arjungenin	$C_{30}H_{48}O_6$	503.3378	13
25	Sericic acid	$C_{30}H_{48}O_6$	503.3378	13
26	Pomolic acid	$C_{30}H_{48}O_4$	471.3479	13
27	Corosolic acid	$C_{30}H_{48}O_4$	471.3479	13
28	rosamultin	$C_{36}H_{58}O_{10}$	649.3957	
29	Catechin	$C_{15}H_{14}O_6$	289.0717	25
30	2-(3,4-Dihydroxyphenyl)-5,7-dihydroxy-4-oxo-4H chromen-3-yl 4-O-(6-deoxy -β-D-gulopyranosyl)-β-D galactopyranoside	$C_{27}H_{30}O_{16}$	609.1461	13

Table 4. Chemical Components Derived from Galangal

No.	Compound Name	Molecular Formula	Molecular Weight	Reference
1	Ethyl 4-methoxycinnamate	$C_{12}H_{14}O_3$	207.1015	13
2	Cyperene	$C_{15}H_{24}$	205.1950	13

6. Pharmacological Effects of Mongolian Medicine Siwei Tumu Xiang San

6.1 Analgesic Effect

Zhao et al.[26] observed the analgesic effect of Siwei Tumu Xiang San using the HAC stimulation method. Fifty male mice were divided into the following groups: blank group (20 ml/kg), positive control group 1 (aspirin 0.6 g/kg), positive control group 2 (pethidine 0.01 g/kg), low-dose Siwei Tumu Xiang San group (6 g/kg), and high-dose Siwei Tumu Xiang San group (9 g/kg), with 10 mice in each group. The number of writhes in mice after administration was counted, and the analgesic inhibition rate was calculated. The results showed that both dosage groups of Siwei Tumu Xiang San inhibited writhing in mice stimulated by HAC. The analgesic effect of Siwei Tumu Xiang San was also observed using the thermal stimulation method. Fifty female mice were divided into the same groups as above, with 10 mice in each group. The latency of pain response in mice was timed, and the results showed that both dosage

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groups of Siwei Tumu Xiang San prolonged the latency of pain response in mice, indicating an analgesic effect.

6.2 Anti-inflammatory Effect

Zhao et al.[26] observed the anti-inflammatory effect of Siwei Tumu Xiang San using the xylene-induced ear swelling method in mice. Fifty mice were divided into the following groups: blank group (20 ml/kg), positive control group 1 (aspirin 1.5 g/kg), positive control group 2 (hydrocortisone 0.025 g/kg), low-dose Siwei Tumu Xiang San group (6 g/kg), and high-dose Siwei Tumu Xiang San group (9 g/kg), with 10 mice in each group. Ear samples from the mice were weighed, and the inhibition rate of ear swelling in mice was calculated. The results showed that both dosage groups of Siwei Tumu Xiang San inhibited xylene-induced ear swelling in mice, demonstrating an anti-inflammatory effect.

6.3 Immunomodulatory Effect

Li[27] reported on the immunomodulatory activity of Siwei Tumu Xiang San, stating that both the processed powder and freeze-dried powder of Siwei Tumu Xiang San not only rapidly promoted the proliferation of splenic lymphocytes but also exhibited a concentration-dependent effect. It showed a positive regulatory effect on the immunosuppressive mouse model induced by CTX at the level of certain immune cells and immune organs.

6.4 Antipyretic Effect

Su[28] observed the antipyretic effect of Siwei Tumu Xiang San using the subcutaneous injection of 20% dry yeast suspension to induce fever in rats. Fifty rats were divided into the following groups: blank group (20 ml/kg), model group (20 ml/kg), low-dose Siwei Tumu Xiang San group (0.225 g/kg), medium-dose Siwei Tumu Xiang San group (0.45 g/kg), and high-dose Siwei Tumu Xiang San group (0.9 g/kg), with 10 rats in each group. The body temperature of the rats was measured, and the results showed that all dosage groups of Siwei Tumu Xiang San reduced the body temperature of febrile rats, with the high-dose group showing a particularly significant and stable antipyretic effect.

6.5 Other Effects

Jiang et al.[29] used the AAC method to induce pressure overload in CH rats. A total of 144 rats were divided into the following groups: sham operation group (20 ml/kg), model group (20 ml/kg), positive control group (captopril 0.02 g/kg), low-dose Siwei Tumu Xiang San group (0.4 g/kg), medium-dose Siwei Tumu Xiang San group (0.8 g/kg), and high-dose Siwei Tumu Xiang San group (1.6 g/kg), with 8 rats in each group. By measuring tail arterial pressure, echocardiography, left ventricular mass index, and performing HE and Masson staining, the results showed that all dosage groups of Siwei Tumu Xiang San lowered blood pressure, improved cardiac function, reduced the short axis diameter of cells, and decreased myocardial fibrosis in CH rats, with the high-dose group showing significant effects.

7. Clinical Applications of Mongolian Medicine Siwei Tumu Xiang San

7.1 Common Cold

Siwei Tumu Xiang San is primarily used in modern clinical practice for the treatment of common cold, viral hepatitis, febrile diseases, and wind-cold conditions. It is also used as an adjunct in the treatment of asthma, cardiovascular diseases, and hypertension. In Mongolian medicine, the common cold is categorized into four types: nasal cold, throat cold, lung cold, and influenza[30]. Regardless of the type, Mongolian medicine aims to "promote the maturation of heat if it is not mature, and to expel the heat if it is mature"[31].

Ulantuya et al.[32] treated 32 cases of influenza using Siwei Tumu Xiang San (Chagan Soup), Erden-Qiwei Soup Powder, and Huhegaridi-Jiuwei Pills. After continuous administration for 3 days, results indicated that symptoms such as fever, sore throat, nasal congestion, runny nose, and headache significantly improved or disappeared, although symptoms like cough and thirst showed no significant improvement. The overall clinical efficacy rate was 96.9%.

Ma et al.[33] reported that Siwei Tumu Xiang San is effective in treating febrile diseases, wind-cold, and viral colds, and is widely used for colds in all seasons. The dosage of the medicine varies according to the patient's

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constitution.

7.2 Jaundice Hepatitis

Burindalai et al.[34] treated patients with jaundice hepatitis (including acute jaundice hepatitis and chronic jaundice hepatitis) using Siwei Tumu Xiang San, Bitter Ginseng Soup, and Qiwei Bile Powder. After 3 days of continuous administration, they switched to Hepatitis Soup, Huang San Powder, Diuretic Powder, and Bitter Ginseng Soup with Niu Huang Jiuwei Powder. After 7 days of treatment, Xiedu Powder 3 g was used to induce diarrhea once. For indigestion, Liuwie Anxiao Powder was added. The results showed that the efficacy rate for liver pain and other symptoms in acute hepatitis reached 90%-100%, and symptoms in chronic hepatitis patients also disappeared.

7.3 Bronchial Asthma

In Mongolian medicine, bronchial asthma is usually treated with Ujum-Qiwei or Haria Buri-Jiuwei as the main therapy, with Siwei Tumu Xiang San as an adjunct[35].

7.4 Inflammatory Bowel Disease

Sun et al.[36] observed the clinical effects of Mongolian medicine Siwei Tumu Xiang San compared to sulfasalazine in patients with inflammatory bowel disease. Siwei Tumu Xiang San was administered 3-5 g each time, three times a day (morning, noon, and evening) for two courses of treatment (42 days). Sulfasalazine was administered 1 g per dose, four times a day, for 42 days. After the treatment course, subjective patient evaluations and endoscopic reexamination results showed that the Siwei Tumu Xiang San treatment group had better outcomes in alleviating inflammatory bowel disease than the sulfasalazine group.

8. Discussion

Based on the records of historical Mongolian medical texts and the practical clinical application of Mongolian medicine, the use of Siwei Tumu Xiang San in Mongolian medicine shows differences in clinical experience and methods of administration, with variations in the dosage of individual herbs within the formula. As a treasured component of the Mongolian medical system, Siwei Tumu Xiang San is known for its efficacy in clearing epidemic toxins, promoting the maturation of febrile and epidemic diseases, balancing "He Yi," and regulating blood disorders. It is used to treat immature fevers, epidemic fevers, void fevers, Bao Ri's "Badagan," "He Yi" blood imbalance, blood pain, common colds, and other conditions, with remarkable clinical efficacy. It is highly trusted and esteemed by Mongolian clinical physicians and is widely applied in clinical practice.

Siwei Tumu Xiang San is proven to be safe, reliable, and effective in treating immature fevers. In light of this, it is strongly recommended that modern scientific research techniques be employed to conduct a comprehensive and systematic study of Siwei Tumu Xiang San. The core objective of this research should focus on thoroughly elucidating the principles of the formula, its mechanisms of action, and analyzing its scientific basis for treating immature fevers. This will provide new ideas and approaches for subsequent treatment, enabling this compound preparation to achieve greater clinical efficacy. Such research will provide strong support for the modernization of Mongolian medicine and open up new ideas and approaches for the treatment of diseases like immature fevers. In the future, based on these research findings, Siwei Tumu Xiang San is expected to play an even more widespread and significant therapeutic role in clinical applications, benefiting more patients and promoting the inheritance and development of Mongolian medicine.

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