# **Research on the Mechanism of Treating Insomnia** with Wendan Decoction from the Theory of Circular Motion

Luyao Di<sup>1,a</sup>, Liyun He<sup>2,b,\*</sup>, Desheng Liu<sup>3,c</sup>

<sup>1</sup>Shaanxi University of Chinese Medicine, Xianyang, 712046, Shaanxi, China
 <sup>2</sup>Institute of Basic Research in Clinical Medicine, China Academy of Chinese Medical Sciences, Beijing, 100700, China
 <sup>3</sup>Outpatient Department, Anhui University of Chinese Medicine, Hefei, 230031, Anhui, China
 <sup>a</sup>3140639451@qq.com, <sup>b</sup>hely3699@163.com, <sup>c</sup>314260196@qq.com

\*Corresponding author

Abstract: Pediatric spastic cerebral paralysis is a common type of pediatric cerebral palsy, and its clinical manifestations Abstract: According to ancient Chinese philosophy, both man and nature follow common laws. The natural qi in accordance with the law of "spring grows and summer grows, autumn harvests and winter accumulates" cycle movement, the human qi is also in the rise and fall of the circular movement. The circular movement of the human body is based on the spleen and stomach as the central axis, the spleen rises from the left, drives the liver to rise from the left, the stomach falls from the right, drives the lung to fall from the right. When the circular movement is out of balance, the human body may appear symptoms, and the idea of treatment at this time is to make the circular movement "circle". The mechanism of Wendan decoction treating insomnia can also be explored by the theory of circular motion. Clinically, there are many medical cases of treating insomnia with Wendan Decoction. In order to deeply understand the principle of prescription, this paper discusses the mechanism of treating insomnia with Wendan Decoction from Peng Ziyi's circular motion theory.

Keywords: Circular Movement, Insomnia, Wendan Decoction

#### 1. Introduction

Insomnia, also known as insomnia, is often difficult to fall asleep when sleeping, or often sleep and easy to wake up, sleep unsettled, and even sleepless all night as the characteristics of the disease [1]. According to the discussion in "Huangdi Neijing", the pathogenesis of insomnia is summarized as night Wei Qi not into Yin, Yang stilts sheng, stomach qi and so on. The total pathogenesis of insomnia can be summarized by Yin and Yang disharmony. The monism of qi holds that qi has Yin and Yang, and that Yin and Yang sympathize to produce the five [2] elements. The five viscera of the human body correspond to the five elements, the five viscera hide qi and the five gods, if the five viscera function is abnormal, the qi is not hidden, the five gods cannot give up in the five viscera, the god does not hide is easy to panic and not sleep[3]. Wendan Decoction is a commonly used prescription for regulating the coke in the spleen and stomach, which can be used to treat stomach disharmony and insomnia. The circular motion theory is centered on the spleen and stomach, and the spleen rises and the stomach falls to drive the movement of the five viscera organs. Therefore, this paper discusses the mechanism of the treatment of insomnia by Wendan Decoction from the circular motion theory.

# 2. Brief Analysis of the Circular Motion Theory

# 2.1. Analysis of the Rise and fall of The Circular Motion of the Universe

Peng Ziyi established the theory of circular motion based on the river diagram and the theory of the rise and fall of the middle qi. The essence of the theory is the rise, rise, fall and fall [4] of Yin and Yang in the natural environment and human body. The origin of the universe is Qi, which divides Yin and Yang. The positive is active, the negative is the main static, while the dynamic will float up, static will sink down, the dynamic and static up and down, Yin and Yang two qi sympathize and produce the five elements. The law of circular movement of the universe takes the change of the four seasons in nature as

# ISSN 2706-6819 Vol.5, Issue 7: 81-86, DOI: 10.25236/IJFM.2023.050713

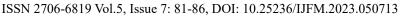
an example: the law of the atmosphere in nature carries on the movement changes of the rise, rise and fall, and one week of movement is a year. The rise of spring is manifested in the underground propagation of yangqi to the ground, and the germination of plants; Summer float performance in Yang floating above the ground, water and fire transpiration, plant branches and leaves to moist and luxuriant; In the long summer, the sun rises to the pole and turns to the ground. The ground accumulates more water than in summer, both Yin and Yang are flourishing, and the water on the ground becomes hot and vaporizes into humidity. Therefore, the hot and humid heats in the long summer reaches the peak and the hot and humid heat extend and contain the plants are relaxed and peaceful. The fall of autumn now Yang qi from the ground to the ground below, summer heat drop, the ground Yin Changyang disappear, its qi cool and clear, plants mature fruit can be harvested; Winter subsidence is manifested in Yang hidden under the ground, the ground Yang less Yin more split ice, water and fire subduction under the ground, everything hidden.

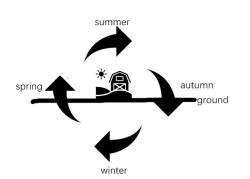
#### 2.2. Analysis of the Rise and fall of Human Circular Movement

Human beings are between heaven and earth. They are born in the universe, and the viscera and organs are born from the circular movement of the atmosphere in the four seasons. Therefore, the human body naturally has laws in common with the universe. "On the Full Form of Su Wen and Bao Life" says, "Man is born by the Qi of heaven and earth, and by the Dharma of the four times."[5] The essence of the circular movement of human body is still the rise and fall of Yin and Yang Qi. Those who have clear qi rise to Yang and those who have turbid qi fall to Yin. It is mentioned in the Source of the Four Sacred Hearts that "between clear and turbid is called middle Qi"[6]. The central qi is the qi of the spleen and the earth, and it is the central axis of the circular movement of the human body. Therefore, it can be seen that the clearing up and turbidizing down of the human body is the circular movement with the spleen and stomach as the core. In the circular movement of the five Zang organs, the spleen rises from the left to drive the liver wood to rise from the left, and the stomach falls from the right to drive the lung gold to fall from the right. At the same time, the liver and the lung rise and fall, and the gold wood interact to maintain balance. The heart fire is in the upper part of the body, the spleen soil is in the middle, and the kidney water is in the lower part. Under the action of the lung Jin Shu descending and the operation of the spleen and stomach center, the heart fire reaches down to the kidney water, and the heart fire descending makes the water in the kidney warm and not cold. Kidney water also contributes to heart fire under the action of fire transpiration and gasification, liver wood rise and spleen soil transport, and kidney water is handed over to heart fire is not inflammation. The intersection of the heart and kidney requires the operation of the spleen and stomach, which play a core role in the circular movement of the five viscera.

# 2.3. Brief Analysis of the Functions of the Two Fires in the Circular Movement of the Universe and Human Body

The change of heat in nature produces the rise and fall [4] of Yin and Yang. This heat is the king fire and the phase fire, which can grow and nourish plants. Similarly, human body also needs the warming effect of heat, and human body also has king fire and phase fire in the warming long nourishing body. The heat from small man to minor heat is called phase fire [4]. Phase fire in the autumn Jin qi under the action of descending to the ground, under the latent effect of winter water and dive into the groundwater, and in the next spring wood gas rise from the ground to the ground, in the summer fire gas rise and float effect and into the floating Jun fire. A year of spring growth and summer growth, autumn harvest and winter collection, growth and collection are phase fire [4]. The Qi of the middle Earth, the "ground" mentioned above, plays a central role in the process of fire. Fire corresponds to the viscera of the pericardium and the viscera of the lifeorgan. Gallbladder and Sanjiao fu-organs also send fire. The heart is the king's fire. Similarly, the fire in human body is also hidden in the kidney water under the action of lung gold and bile stomach right descent, and then handed over to the heart with the liver and spleen left rise. The key of the fire movement also lies in the role of the central axis of the spleen and stomach. The fire of the upper coke should be able to fall, and the heat will not fall; Lower coke fire to be able to hide, do not hide the cold. Phase fire and the human body is also closely related to the absorbency, if the phase fire does not fall, disturbing the mind is easy to appear sleepless. The rise and fall of the four seasons is shown in Figure 1. The rise and fall of the five elements is shown in Figure 2. The rise and fall of the six channels is shown in Figure 3. The rise and fall of Wuzang is shown in Figure 4.





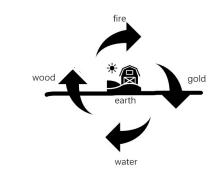


Figure 1: The rise and fall of the four seasons

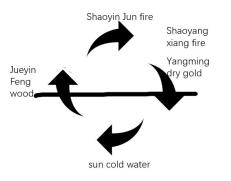


Figure 2: The rise and fall of the five elements

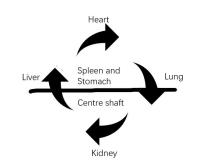


Figure 3: The rise and fall of the six channels

Figure 4: The rise and fall of Wuzang

# 3. From the Circular Motion Theory to See Wendan Decoction Treatment of Insomnia

#### 3.1. Drug Composition, Function and Indications of Wendan Decoction

Wendan decoction was first produced in the Collection of Prescription, and later generations commonly used the Wendan decoction [7] of Sanyin Fang. "Sanyin Fang" warm gall soup is composed of "Pinxia (soup wash seven times), bamboo shavings, trifoliate fructus aurantii, tangerine peel twos, roasted licorice one or two, poria poria one and a half, ginger five pieces, jujube one." [7]. the function of this prescription is "clearing heat and phlegm, relieving gallbladder and stomach" [8]. It can treat the insomnia caused by gallbladder and stomach discord.

# 3.2. Discuss the Action Mechanism of Drugs in Wendan Decoction Recipe from the Theory of Circular Motion

The pathogenesis of the syndrome of Wendan Decoction is based on the abnormal movement of the spleen and stomach, stomach disequilibrium, phase fire does not fall, bile stagnation heat burning dampness into phlegm, phlegm heat endogenous and qi machinery blocked as the standard. This deficiency of this essence is the manifestation of circular movement "loss of circle". Wendan Decoction clearing heat and eliminating phlegm, relieving gallbladder and stomach, can make the round movement "circle", is an important prescription for the treatment of gallbladder and stomach disharmony sleepless. Wendan soup can be regarded as the six gentleman soup to ginseng, white art plus ginger, jujube to health of the spleen and stomach axis, and bamboo ru, Fructus aurantii fructus to reduce bile stomach, bile stomach phlegm heat and composed. It can be seen that the formula is based on regulating the spleen and stomach qi machine operation, complex bile and stomach down, so circular movement "circle". This recipe uses sunburned licorice, ginger, jujube and poria to help the spleen rise to the left, pinellia pinellia, tangerine peel, bamboo shaoxing and Fructus aurantii fructus to help the stomach fall to the right. Tangerine peel, bamboo ru can also reduce lung qi, bamboo ru can also reduce phase fire. Pinellia pinellia, tangerine peel, bamboo ru and aurantii imurus match can also remove phlegm heat. If phlegm heat is removed, the operation of Qi machine will not be hindered. Such compatibility is spleen and stomach lifting recovery, the circular movement of the human body can be "rounded", Yin and Yang have to meet, God is sleeping. The effect of the pharmaceutical composition of Wendan Decoction on Wuzang is shown in Table 1:

International Journal of Frontiers in Medicine

# ISSN 2706-6819 Vol.5, Issue 7: 81-86, DOI: 10.25236/IJFM.2023.050713

Wuzang	traditional Chinese medicine			
spleen	roasted licorice	ginger	jujube	poria
stomach	pinellia ternata	tangerine peel	bamboo shavings	fructus aurantii
lungs	tangerine peel	bamboo shavings		
kidneys	fructus aurantii			

 Table 1: The effect of the pharmaceutical composition of Wendan Decoction on Wuzang

#### 3.2.1. Function of Pinellia Chinensis

"Reading of the Materia Medica" says: "Pinellia pinellia... Xin can open all kinds of knot, and peace can bring down all kinds of disobedience." [9]. "Materia Medica Preparations" recorded pinellia pinellia: "slippery body dry. It can walk and disperse, and it can dry and moisten." [10]. Pinellia dryness can remove dampness, taste Xin body slippery can ventilation, water qi, liquid, so the dryness can moisten dryness. It seems contradictory that pinellia dryness can moisten. In fact, it cans dryness because its xin powder can dry the dampness of the spleen, and it can moisten the delicate moisture of the viscera and the spleen and stomach after the dryness of the spleen. For example, "Bureau" Half sulfur pills to treat the secret of the deficiency of the elderly are to take pinellia dry can moisten, lubricating effect. Pinellia can slip into Yin; sex dryness can help Yang, and grow in the season of Yang into Yin, so it can from Yang into Yin, and stomach Qi and Yin [11] and Yang. Pinellia decoction in Lingshu can cure blindness. Pinellia can also expectorant drink, mainly to remove phlegm in the stomach, can open the drainage slide down to clean the phlegm in the stomach. Therefore, Pinellia pinellia in Wendan Decoction can remove sputum turbiditis, can help the stomach to descend right and lead Yang into Yin.

# 3.2.2. Function of Bamboo Shavings

"Medicine meaning" said: "bamboo shavings, cool can dispel heat, bitter can fall, specifically clearing heat phlegm, for Ning Shen open Yu Jia product." [12]. Bamboo shavers are the middle layer [13] of the stem of green stick, Big head, or light bamboo. Therefore, it can be seen that bamboo shavings are the pipes for transporting body fluid and nutrients, and nutrients are transmitted from up to down without staying, so bamboo shavings can block the ventilation machine and smooth the operation of water in the human body. "This Jing Shuxin syndrome" said: "So the purpose of its function said in an qi, in order to know the work of bamboo skin, all from the outside spin inside the qi." [11]. So bamboo Ru is to achieve the role of anzhong Qi by lowering the lung bile stomach qi, chang Jiao Qi. Bamboo ru can also clear the bile and stomach fu-organs of phlegm heat, so that the fire does not disturb the mind and can calm the god sleep. Thus it can be seen that the role of bamboo Ru in Wendan Decoction is to reduce the qi of bile stomach and lung and clear the heat of phlegm in the middle of coke to restore the mediation of the qi of the middle of coke.

#### 3.2.3. Function of Fructus Aurantii

"Shennong Materia Medica" records the bitter and cold taste of Fructus aurantii, "the famous doctor" plus acid, and the screening power added xin, check its function, should be bitter, acid and xin second [14]. Trifoliate bitter Xin can disperse knot, acid can collect phlegm water, its through the middle coke Qi Yu, Qi knot strong force. As Huang Yuanyu said: "Bitter and quick Li Aurantii sour acid, break knot open blood stasis, purges the fullness of PI... Purge Yu Chen, strong and vigorous." [15]. the main function of Fructus aurantii is to scatter the coke and leave the knot, so it can drain the ruffian. Fructus aurantii can also be used to promote chest and diaphragm qi; in fact, it is because it can remove medium coke. Because evil is obstructed in coke, qi is reversed and obstructed in coke, chest diaphragm is unfavorable. Fructus aurantii can also enter the blood; remove the spleen through the accumulation of blood, the treatment of heart ruffii, which is also the force of taking Fructus aurantii Xin dispersing bitter and emptying the spleen through stagnation. It can be seen that the role of Zhishi Wendan decoction is to dissipate bitterness and relieve jiao obstructing stagnation.

# 3.2.4. Function of Tangerine Peel

Tangerine peel is the ripe dried peel of orange and its varieties in the rutaceae family. [16]The peel is orange red if it is whitened. The hard temperature of tangerine peel is a medicine for spleen and lung Qi, which can manage the qi mechanism of middle Jiao spleen and stomach and upper jiao lung. The fascia of tangerine peel is like the main vein of the human body, its skin is like the muscle of the human body, and the small holes on the skin are like the pores of the human body, the main muscle of the spleen and the main fur of the lung. Therefore, the orange peel can access the spleen and stomach and regulate the lung through the Qi [11] mechanism with its aroma and laborious taste like the muscles and pores of the

# ISSN 2706-6819 Vol.5, Issue 7: 81-86, DOI: 10.25236/IJFM.2023.050713

human body. The lung is the master of Qi, the spleen and stomach is the source of qi, and Qi is smooth and moist. Therefore, Tangerine peel rules all diseases with its ability to regulate Qi dryness and dampness. It can be seen that Tangerine peel in Wendan decoction is mainly for regulating the spleen and lung qi machinery and helping the circular movement.

#### 3.2.5. Function of Poria Cocos

Poria sweet light flat, belongs to the spleen soil, first to help the spleen rise Qingyang, that is, rise to fall, so as to help the stomach to fall turbid. Poria Gan light infiltration, can ooze moisture and benefit water, urine. Poria Li urination is qi water and not hurt body fluid, because it can help the spleen and stomach to transport water, help the spleen to rise Qing to the lung, with the lung down to the right, under the three coke waterway to the bladder, the bladder and in the gasification of the kidney to metabolize the water out of the body. Poria cocos can not only ooze and relieve dampness, but also have tonifying effect. "Shennong Materia Medica collection notes" that poria can "for a long time to take care of the soul, the spirit." [17]. "Famous doctor don't record" also means poria can "quench thirst, sleep well, calm the soul, and nourish the spirit." [18]. because poria cocos is parasitic on the roots of ancient pines, condensing the spirit of ancient pines in the earth [19]. The formation process of poria cocos makes it have the spirit and the aura of the spleen, so poria cocos can tonify the heart and spleen, soothe the soul and nourish the spirit.

#### 3.2.6. Prepare Licorice, Ginger and Jujube

Processed licorice, ginger, jujube in the warm gall soup is to make the Ying Wei and body fluid foot by adjusting the spleen and stomach of the middle coke. Wendan decoction syndrome phlegm drink this pathological product, why do we need to supplement body fluid? Because Phlegm and water dampness are pathological products that should be transformed into Qi, blood and body fluid, that is, if there is a supply of phlegm and water dampness, there is a lack of body fluid, so the treatment of Wendan decoction syndrome needs to strengthen the spleen and stomach and replenish body fluid. Roasted licorice is to fry licorice with honey, which can replenish body fluid and soothe the gastrointestinal tract. Sunburned licorice is also beneficial to qi and spleen, harmonizing the role of various medicines. Ginger can disperse the water in the stomach. Ginger also has the power to relieve Yang. Red jujube outside the red yellow, for the fire of earth, and jujube thick meat containing jin, so jujube can nourish the spleen Yin, body fluid. Jujube and ginger used together can adjust camp wei, ginger to the main health, jujube to main. Therefore, sunburned licorice, ginger, jujube in the warm gall soup is to regulate the operation of the axis of the spleen and stomach.

#### Acknowledgements

TCM is a holistic approach to understanding life and treating diseases. It believes that human beings are in harmony with heaven and earth, so the human body and the universe jointly follow the theoretical laws of "Qi, Yin and Yang, and the five elements". In his book Ancient Traditional Chinese Medicine of Circular Movement, Peng Ziyi explained the operation law of nature and human body from the circular movement theory of Yin and Yang, the five elements and the six Qi, and treated diseases [20] with the idea of "central Qi is like the axis and the four dimensions are like the wheel". This circular motion theory attaches great importance to the function of the spleen and stomach in the middle Jiao. After exploring the mechanism of treating insomnia with this theory, we have a deeper understanding of the meaning of "stomach disharmony makes sleeping uneasy".

#### References

[1] Zhao Qian, Li Jincao, Huang T et al. Research status of the classic prescription Tianwang Buxin Dan in the treatment of insomnia. Chin J Pharmacy, 2022, 33(18):2295-2298+2304.

[2] Li Dexin. Lecture Notes of Li De-xin's Basic Theory of Traditional Chinese Medicine. Beijing: People's Medical Publishing House, 2008:105-200

[3] Wu Xiaoqi, Wang Yang. Application of the Theory of Five Gods and viscera in the treatment of insomnia. Bulletin of Traditional Chinese Medicine, 2022, 21(04):20-22. (in Chinese)

[4] Peng Ziyi. Ancient Traditional Chinese Medicine of Round Movement. Beijing: China Traditional Chinese Medicine Press, 2007: 1-25.

[5] Wu Kunzhu. Huangdi's Neijing Su Wen Wu Zhu. Beijing: Academy Press, 2012:133.

[6] Huang Yuanyu. The Source of the Four Sacred Hearts. Beijing: China Traditional Chinese Medicine Press, 2009:2.

# ISSN 2706-6819 Vol.5, Issue 7: 81-86, DOI: 10.25236/IJFM.2023.050713

[7] Chen Xu, Dong Jian, Zhao Zhouyang et al. Humble Opinion on the warmth of Wendan Decoction. Chinese Medical Forum, 2020, 35(02):45-46.

[8] Sun Jianguang, Gong Changjing, Ed. Wen Dan Tang. Beijing: China Medical Science and Technology Press, 2009: 3-33.

[9] Chen Xiuyuan. Reading of Shennong's Materia Medica. Beijing: China Science and Technology Press of Traditional Chinese Medicine, 2018: 68.

[10] Wang Ang, Zheng Jinsheng. Beijing: People's Medical Publishing House, 2005: 28.

[11] Zou S. The Syndrome of Thinning of the Classics. Beijing: China Traditional Chinese Medicine Press, 2019: 1-276. (In Chinese)

[12] Jia Xuexue. Beijing: China Traditional Chinese Medicine Press, 2013: 93.

[13] Zhao Jiachen, Wang Yihan, Jin Yan, et al. The textual research of bamboo Shavings in classical famous prescriptions. Chinese Journal of Experimental Formulae, 2022, (10):238-246.

[14] Ran Xuefeng. Ran Xuefeng's Complete Works of Medicine. Beijing: Jinghua Publishing House, 2003: 294-295.

[15] Huang Yuanyu, Chang Yaojie. China Science and Technology Press of Traditional Chinese Medicine, 2017: 33.

[16] National Pharmacopoeia Commission. Chinese Pharmacopoeia. Beijing: China Medical Science and Technology Press, 2015: 191.

[17] Ma Jixing, Ed. Notes on the Herbal Classics of Shennong. Beijing: People's Medical Publishing House, 2013: 92.

[18] Compiled by Tao Hongjing and edited by Shang Zhijun. Records of Famous Doctors. Beijing: China Traditional Chinese Medicine Press, 2013: 14.

[19] Dai Cheng. Study on the medicinal properties of Fu Xing Jie Wu Zang drug Method Beijing: Academy Press, 2013: 33-36.

[20] Xu Meng, Wang Xinzhi, Xu Wang. Treatment of Insomnia by Circular motion Theory. Journal of Traditional Chinese Medicine, 2019, 35(04): 746-749.