

Exploring the Mechanisms of Syndrome Differentiation and Treatment for Adolescent Non-Suicidal Self-Injury Based on Huang Yuanyu's Theory of "Circulation of Monistic Qi, Earth as the Pivot of Four Manifestations"

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Abstract: To investigate the pathogenesis and therapeutic strategies of traditional Chinese medicine (TCM) for adolescent non-suicidal self-injury (NSSI), this paper systematically analyzes the pathogenic mechanisms and intervention principles of NSSI based on the theory of "Circulation of Monistic Qi, Earth as the Pivot of Four Manifestations" proposed by Huang Yuanyu, a physician in the Qing Dynasty. The fundamental pathogenic mechanism is identified as spleen-earth deficiency impairing transportation and transformation and dysfunction of the pivotal mechanism. Treatment should aim at restoring the circulation of monistic qi, with strengthening spleen-earth, consolidating the middle jiao, and protecting middle qi as basic therapeutic principles. According to specific pathogenic factors, adjuvant therapies include soothing liver-qi to relieve stagnation, coordinating the heart and kidney, and astringing lung qi to descend rebellious qi. This study provides novel theoretical approaches and practical guidelines for systematically differentiating syndromes and treating adolescent NSSI in clinical settings.

Keywords: Huang Yuanyu; a gas flow; four Elephants of Earth Pivot; adolescents; non-suicidal self-injury; NSSI; traditional Chinese medicine treatment

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1. Introduction

Non-suicidal self-injury (NSSI) refers to the behavior of intentionally and repeatedly directly injuring one's own tissue without suicidal intent. Its core characteristics are 'non-fatal' and 'intentional'. The main purpose of behavior is to alleviate negative emotions and deal with psychological pain. It is a public health problem with high incidence in the global adolescent population.

NSSI often occurs in adolescence, especially between 12 and 16 years old, and reaches the peak at about 15 years old, and the incidence of late adolescence and early adulthood decreases^[1].

In China, the prevalence of NSSI in adolescents is severe. The annual detection rate of NSSI in adolescents is more than 29%, which is much higher than the global average^[2]. The lifetime prevalence of NSSI in adolescents is 24.7 %^[3].

NSSI not only causes direct physical damage to adolescents, but also increases the risk of suicidal ideation and suicidal behavior in the future^[4].

Currently, Western medicine faces considerable challenges in clinical interventions for adolescent NSSI^[5], highlighting an urgent need to explore safer and more effective intervention strategies through traditional Chinese medicine (TCM). Within the holistic framework and syndrome differentiation treatment system of TCM, NSSI can be categorized as stagnation syndrome^[5].

The theory of "Circulation of Monistic Qi, Earth as the Pivot of Four Manifestations," established by Huang Yuanyu in *Sisheng Xinyuan*, positions the spleen and stomach, the seat of middle qi, as the central pivot, systematically elucidating the intrinsic laws of qi circulation and visceral coordination within the human body. Based on this theoretical framework, the current paper examines the pathogenesis and treatment mechanisms of adolescent NSSI from the perspective of TCM, aiming to provide theoretical guidance and innovative approaches for clinical TCM interventions.

2. Core Connotation of Huang Yuanyu's Theory of "Circulation of Monistic Qi, Earth as the Pivot of Four Manifestations"

Huang Yuanyu's academic thought is embodied in the 'Four Sacred Heart Sources', the core of which can be summarized as 'one qi circulating around, four earth pivots and four images'. The theory is rooted in the monism of qi, and holds that 'the left wood fire rises, the right gold water falls, and the middle earth's qi mediates'^[6]. 'Yin and Yang are not judged, one gas is confused, gas contains Yin and Yang, there is clear and turbid, clear is floating, turbid is sinking, natural nature is also. . .

Between the clear and the turbid, is called the middle qi.^[6] Huang Yuanyu believes that the middle qi corresponds to the spleen and stomach in the human body, which is the pivot of the ascending and descending of yin and yang, and is the fundamental driving force for the operation of human qi and life activities^[7]. The spleen and stomach of the middle earth is the pivot, which transforms the four images of liver wood, heart fire, lung gold and kidney water. If the middle qi is strong, the spleen rises and the stomach drops in an orderly manner, driving the liver wood to rise on the left and the lung gold to fall on the right. The heart fire is warm, the kidney water goes up, and the gas flows continuously, and the viscera is peaceful. The four-dimensional disease is caused by the middle qi. The deficiency of the middle qi and the disorder of ascending and descending are the core pathogenesis of various diseases. The spleen does not rise clear cause liver wood depression (blood disease), the stomach does not fall turbidity and lung gold stagnation (qi disease); left ascending obstruction causes heart fire to lose nourishment and deficiency (mental illness), and right descending disorder causes kidney water to lose temperature and cold (fine disease)^[8].

3. Analysis of the Core Pathogenesis of Adolescent NSSI Based on the Theory of "Circulation of Monistic Qi, Earth as the Pivot of Four Manifestations"

Adolescents are characterized by immature yin and yang, relative excess of liver qi, and insufficiency of spleen qi, with underdeveloped psychological capacity and heightened emotional susceptibility. Academic stress, family environment, and peer relationships may induce internal injury due to the seven emotions, thereby damaging middle qi, disrupting the ascent and descent of qi, and impeding the smooth circulation of monistic qi, ultimately leading to visceral disharmony and the onset of NSSI. Based on this theoretical framework, the core pathogenesis of adolescent NSSI can be summarized as decline of middle earth and dysfunction of the pivotal mechanism, manifested by stagnation of liver-qi with impaired dispersion, disharmony between water and fire with loss of mental regulation, and failure of lung-metal to astringe and descend qi. These pathological changes interact and reinforce each other, resulting in stagnation of monistic qi circulation and dysregulation of emotional processes, thereby ultimately triggering NSSI.

3.1. Middle Earth Deficiency and Pivot Dysfunction: The Fundamental Cause of Onset

'Middle qi, and the machine of water and fire, lifting the axis of gold and wood', spleen and stomach qi is the core axis of

qi circulation, but also the five internal organs, qi and blood yin and yang of the biochemical source, but also the material basis of emotional activities. The adolescent group has heavy academic work and excessive thinking. The “Neijing” says “thinking about hurting the spleen.” Long-term thinking and tiredness are most likely to damage the spleen and stomach qi; in addition, improper diet, sedentary, emotional disorders, further damage to the soil, resulting in spleen and stomach deficiency, pivot failure, spleen does not rise clear, stomach does not fall turbidity, four-dimensional malnutrition, one gas week loss to the fundamental driving force, which is the core root of NSSI in adolescents.

The spleen and stomach are the source of qi and blood biochemistry, and the decline of the middle earth is the source of qi and blood biochemistry. On the one hand, qi and blood deficiency is the loss of nourishment of the five internal organs, and the loss of nourishment of the mind is emotional. Negative emotions such as anxiety, depression, and emotional out of control are generated. The non-suicidal self-injury self-deficit model theory believes that people who have experienced self-directed negative emotions are more likely to choose NSSI as a method of emotional regulation^[9].

On the other hand, the decline of the middle earth and the failure of the pivot lead to the disorder of the spleen and stomach, which directly leads to the stagnation of liver wood due to the loss of ascending hair, the stagnation of lung gold due to the loss of descending, the inflammation of heart fire due to the lack of lower temperature, the coldness of kidney water due to the lack of upper bearing, the disorder of four dimensions, and the stagnation of qi circulation, which leads to the disorder of qi movement and emotional disorder. ‘Neijing’ said that ‘all diseases are caused by qi’, and emotional depression leads to qi stagnation. Patients may use self-injury behavior as a non-adaptive attempt to release the backlog pressure^[10]. Studies have shown that the neural basis of repetitive NSSI is characterized by hypothalamic-pituitary-adrenal axis dysfunction, reward system bias to pain relief, and prefrontal-limbic system circuit dysfunction^[11]. Spleen deficiency leads to phlegm dampness endogenous, blinding clear orifices, brain regulation and emotional response are affected, and finally form a pathological chain of ‘spleen deficiency generating phlegm-phlegm blinding clear orifices-nerve disorders-self-injury behavior’.

3.2. Stagnation of Liver-Qi and Impaired Dispersion

In the ‘one qi circulation’ system, liver wood resides in the left side of the qi movement, mainly ascending and discharging, and its ascending and discharging depend on the left rotation of the spleen soil, which is the key to the ascending and descending of the left qi movement. The liver governing dispersion has two functions: regulating the whole body’s qi movement and regulating emotions. Therefore, the emotional state and qi movement are directly dependent on the dispersion function of the liver.

Teenagers are full of vitality, hyperactive liver qi and easy to fluctuate. Stimulated by negative life events, they are prone to liver disorder and abnormal rise, forming liver qi stagnation. The spleen and stomach are the center of qi movement. If the middle soil is weak and the spleen does not rise, the liver wood will lose its base of rising hair, and the stagnation will be more serious and the dispersion will be abnormal, which is called adolescent NSSI.

Stagnation of liver qi and no right to disperse will block the qi movement of the whole body, and the accumulation of emotional depression cannot be released. The depression is extremely chaotic, and the body then uses self-injury behavior as a way out. Adolescent NSSI is not a simple behavioral abnormality, but a mental and qi disease caused by liver failure, qi stagnation, and left circulation disorder.

Liver failure to disperse directly leads to a decrease in emotional regulation ability, an increase in emotional reactivity, and difficulty in relieving negative emotions. The more severe the stagnation, the more chaotic the emotions, and ultimately induces impulsive self-injury. School bullying, family conflicts, academic pressure and so on can lead to liver qi stagnation, bile discomfort, qi closed and no way to leak, turn inward attack for self-injury; the prolonged stagnation of liver fire and the hyperactivity of liver fire further aggravate the restless and impulsive behavior and increase the risk of self-injury.

Stagnation of liver qi can also reverse the spleen soil, resulting in abnormal spleen rise and more deficiency of middle soil, forming a vicious circle of soil deficiency and wood depression, aggravating the blockage of one qi circulation, so NSSI has a long course of disease and is easy to repeat.

3.3. Disharmony between Water and Fire Leading to Spirit Dysregulation

In the theory of ‘one qi circulation’, the heart fire rises with the left side of the liver wood and dominates the spirit, and the kidney water falls with the right side of the lung gold and mainly seals. The kidney water is warmed under the heart fire, and the kidney water is used to help the heart fire, so as to help the water fire. The core power of heart-kidney communication lies in the coordination of central focus rotation and liver-lung ascending and descending.

If the middle soil is deficient and the pivot is lost, the spleen does not rise, the liver wood does not rise, and the heart fire floats above; the stomach does not drop turbidity, lung gold does not drop, kidney water cold coagulation in the lower. The disorder of ascending and descending of water and fire, the disharmony between heart and kidney, the loss of God, and the occurrence of NSSI in adolescents.

The heart governs the gods and is the master of spiritual emotions. The hyperactivity of heart fire or the insufficiency of heart blood can lead to the loss of mind, restless mind, anxiety and restlessness. The kidney stores the essence, the essence generates the marrow and fills the brain, and the brain is the house of the original spirit; the deficiency of kidney essence leads to the deficiency of marrow sea and the loss of primordial spirit, which further aggravates the disorder of emotion and cognition.

Disorder of water and fire, disharmony between heart and kidney, yang failing to enter yin, insomnia at night, sleep disorder further disturbs the gods and aggravates the disorder of qi movement. The loss of spirit leads to the decline of emotional regulation and behavioral restraint ability, and the accumulation of emotions cannot be drained, which is easy to cause impulsive self-injury behavior.

The failure of water and fire can cause the heart fire to burn into phlegm, and the phlegm and fire are intermingled and disturb the gods, forming the syndrome of phlegm and fire disturbing the gods. Phlegm-fire blocking qi movement is physical discomfort, and patients are prone to self-injury for temporary relief.

3.4. Impaired Astringency of Lung-Metal and Failure of Qi to Descend

In the ‘one gas flow’ system, the four-dimensional right of the lung metal is mainly descending and converging, and it converges and descends with the right turn of the stomach soil, which is an important part of the one gas flow. The decline of lung gold can not only drive the storage of kidney water, but also restrict the excessive rise of liver wood, so as to balance the rise and fall of qi and orderly flow of qi. If the middle soil decays and the stomach does not descend turbidity, the lung gold loses the foundation of convergence and descent, resulting in the loss of gold qi, the disorder of descending qi, the stagnation of qi movement, and the inability to descend, which in turn aggravates the stagnation of qi circulation, resulting in adolescent NSSI.

The lung governs qi and controls breathing. The main qi of the lung governs the release and descent. The lung gold is astringent and the descent is abnormal. The downward pathway of the whole qi is blocked, and the qi is depressed and reversed. There are chest tightness, too much sighing, emotional depression and other manifestations. In order to alleviate the discomfort of this qi stagnation, patients will forcibly dredge the qi through self-injury behavior. At the same time, lung gold and liver wood are the viscera of Jinmu Xiangke. The normal descending of lung gold can restrict the excessive ascending of liver wood, so that the liver qi will not be reversed. If the lung gold fails to astringe and the descent has no right, it cannot restrict the liver wood, resulting in the excessive rise of liver qi, depression and fire, aggravating the symptoms of impulsive irritability and uncontrolled behavior, and increasing the risk of NSSI.

Lung gold is the source of water. If lung gold falls normally, it can transport body fluid and qi downward to the kidney and nourish kidney water, that is, ‘gold and water grow together’. If the lung gold is lost and the descending is abnormal, the kidney water cannot be nourished by the upper source, resulting in kidney essence deficiency, marrow sea malnutrition, and aggravating the disorder of mind and emotion; at the same time, kidney water deficiency is unable to relieve heart fire, further aggravating the pathogenesis of water and fire failure and disharmony between heart and kidney, forming a vicious circle. Studies have shown that social factors such as family environment and peer relationship can lead to social isolation and lack of sense of belonging in adolescents, while traditional Chinese medicine believes that ‘lung in mind is worried’,

and long-term sadness is most likely to damage lung gold, resulting in lung loss of Xuansu and loss of Jinqi, which in turn aggravates qi stagnation and emotional disorders, which is also closely related to the occurrence of NSSI in adolescents.

4. Principles of Syndrome Differentiation and Treatment for Adolescent NSSI Based on the Theory of "Circulation of Monistic Qi, Earth as the Pivot of Four Manifestations"

Huang Yuanyu's treatment of internal injuries and miscellaneous diseases is based on the middle qi, and the core treatment principles are to cultivate and supplement the middle qi, pivot up and down, regulate the four-dimensional, and restore the one-qi circulation. The purpose is to restore the spleen and stomach pivot, restore the four-dimensional up and down, and make the qi cycle orderly, the viscera are peaceful, and the body and spirit are coordinated. Based on this, combined with the characteristics of adolescent NSSI pathogenesis, the following principles of syndrome differentiation and treatment were established.

4.1. Strengthening Spleen-Earth and Consolidating the Pivot to Restore the Foundation of Qi Circulation

In view of the core pathogenesis of "soil failure and pivot failure" in adolescent NSSI, the treatment should be based on the primary meaning of strengthening the earth and building the middle, so as to restore the pivot function of the spleen and stomach, and provide the fundamental impetus for the circulation of one qi. Only when the Qi in the spleen and stomach is strong and vigorous, can it drive the liver wood to rise left, the lung gold to fall right, the heart fire to warm down, the kidney water to rise, and restore the normal rhythm of one gas flow. In the process of strengthening the spleen and harmonizing the stomach, the spleen should be divided into the two ends of the spleen and the stomach. The spleen should be strengthened to help the spleen soil turn left to rise the clear, and the stomach should be harmonized to help the stomach soil turn right to lower the turbidity. Both of them should be taken into account to restore the normal operation of the central focal axis. It can guide patients to eat regularly, avoid cold and greasy products damaging the spleen and stomach, cooperate with traditional sports such as Baduanjin and Tai Chi, strengthen the spleen and stomach, and regulate qi movement. In view of the characteristics of adolescents' excessive thinking and spleen injury, emotional counseling and cognitive guidance can be used to alleviate their excessive thinking, reduce the damage of emotional factors to the spleen and stomach, and block the development of the disease from the etiology.

4.2. Soothe Liver-Wood to Relieve Stagnation and Facilitate Qi Circulation

In view of the key pathogenesis of adolescent NSSI 'wood qi stagnation and catharsis disorder', the treatment should focus on soothing wood to achieve depression, restore the ascending and catharsis function of liver wood, and unblock the left ascending road of one qi circulation. Huang Yuanyu believes that the rise of liver wood depends on the left rotation of spleen soil, so the combination of Shumu Dayu and Peitu Jianzhong can fundamentally solve the problem of liver qi stagnation. Through emotional counseling, emotional catharsis and other ways, it can help teenagers relieve the backlog of negative emotions, which is in line with the physiological characteristics of liver governing catharsis. It can guide patients to vent their emotions through talk, exercise, artistic expression, etc., soothe liver and relieve depression, regulate qi movement, restore the function of liver wood, and reduce self-injury behavior caused by emotional depression.

4.3. Harmonize Water and Fire, Calm the Spirit, and Stabilize Qi Circulation

In response to the core pathogenesis of "disharmony between water and fire and spirit dysregulation" in adolescent NSSI, treatment should focus on harmonizing heart-fire and kidney-water, restoring balanced interaction between these elements, calming the heart spirit, and consolidating kidney essence to stabilize emotional states. Huang Yuanyu considered that effective communication between heart and kidney primarily depends on the pivotal rotation of the middle jiao and the coordinated ascent-descent functions of liver and lung. Therefore, harmonizing heart and kidney

interactions must build upon strengthening spleen-earth and consolidating middle jiao function, supplemented by soothing the liver to ascend liver-wood and astringing the lung to descend lung-metal. Thus, heart-fire ascends alongside liver-wood without excessive floating, while kidney-water descends with lung-metal without becoming excessively cold or stagnant, ultimately achieving balanced harmony between water and fire. Complementary TCM-based nursing measures, including mindfulness meditation, five-element music therapy, and acupoint massage, can aid adolescents in calming heart-fire and stabilizing the spirit.

4.4. Astringe Lung-Metal, Descend Qi, and Facilitate Complete Circulation

Targeting the pathogenesis of "impaired astringency of lung-metal and failure of qi descent" in adolescent NSSI, therapeutic measures should emphasize astringing lung-metal, promoting its descending function, and regulating qi circulation along the right descending pathway. Restoration of lung-metal's descending and astringing functions ensures balanced qi circulation, achieving mutual generation between metal and water, and thus completing the monistic qi cycle. According to Huang Yuanyu, the rightward rotation of stomach-earth forms the foundation for the descending function of lung-metal; hence, astringing lung-metal and facilitating qi descent should be paired with harmonizing stomach-earth to descend turbid qi. Harmonizing stomach function supports lung descent, and lung descent further nourishes kidney-water, fulfilling the TCM principle of "metal generating water." Breathing exercises and practices such as Baduanjin can reinforce the dispersing and descending functions of the lung and regulate systemic qi dynamics. Given TCM's assertion that "the lung governs worry," interventions including emotional counseling and positive psychological guidance should be utilized to alleviate worry and reduce emotional damage to lung-metal, thereby restoring its dispersal and descending functions, facilitating systemic qi regulation, and supporting restoration of monistic qi circulation.

5. Conclusion

Huang Yuanyu's theory of 'one qi flowing around, earth pivot and four images' takes qi monism as the core, spleen and stomach qi as the pivot, and the ascending and descending of four-dimensional viscera as the spokes, and constructs a complete interpretation system of human physiology and pathology, which provides a new theoretical perspective and idea for the TCM syndrome differentiation and treatment of NSSI in adolescents. Based on this theory, the core pathogenesis of NSSI in adolescents lies in the decline of the middle soil and the failure of the pivot, which leads to the stagnation of wood, the stagnation of fire, the stagnation of gold, the cold of water, the disorder of four dimensions, the stagnation of qi, the disharmony of viscera, the disorder of emotion, and finally the self-injury behavior. Among them, the decline of the middle earth is the root of the disease, the stagnation of wood qi is the key to the disease, the loss of water and fire is the core of the disease, and the loss of golden qi is an important part of the disease. The four factors influence each other, cause and effect each other, forming a vicious circle.

Corresponding to this, the traditional Chinese medicine treatment of NSSI in adolescents should be based on strengthening the earth and building the center, consolidating its pivot, cooperating with Shumu Dayu, communicating the heart and kidney, converging the lung and lowering the gold, regulating the circulation of one qi as a whole, restoring the normal operation of the spleen and stomach pivot and the orderly rise and fall of the four-dimensional viscera, so as to achieve the therapeutic effect of viscera harmony, body and spirit adjustment and emotional self-ning. Compared with western medicine treatment, traditional Chinese medicine intervention based on the theory of 'one qi circulation' starts from the whole and takes into account the specimen. It can not only improve the patient's negative emotions and self-injury behavior, but also fundamentally adjust the patient's viscera function and physical state. It has the advantages of high safety, small side effects and stable long-term efficacy, and provides a new direction for the clinical intervention of NSSI in adolescents.

At present, the traditional Chinese medicine research on NSSI in adolescents is still in its infancy. Most of the existing studies are small sample clinical observation, and there is a lack of large sample and multi-center randomized controlled trials. The pathogenesis and treatment of NSSI based on Huang Yuanyu's theory of 'one qi circulation' is rarely reported. The application value of this theory in the clinical intervention of NSSI still needs further clinical and experimental research. In the future, a large sample of clinical research can be carried out based on the theory of 'one qi circulation, earth

pivot and four images', so as to further clarify the distribution law and pathogenesis characteristics of TCM syndromes of NSSI in adolescents, optimize the intervention plan of TCM, and further explore its mechanism of action, so as to provide more sufficient theoretical basis and clinical evidence for the prevention and treatment of NSSI in adolescents, and better play the characteristics and advantages of TCM in the field of adolescent mental health.

Disclosure statement

The author declares no conflict of interest.

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