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Health Support Systems for Space Astronauts

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Abstract: Space disease among astronauts presents a complex medical challenge with elusive origins, resisting traditional diagnostic methods. This study explores a comparative analysis between the rotational dynamics of the twelve-organ presidency and circadian rhythms, revealing a consistent stagnation in the visceral organ rhythm during the president period of Sanjiao in space astronauts. This abnormal rhythm prompts an investigation into its potential role as the fundamental cause of space disease. Experiments on Earth, employing an Organ Rhythm Conditioner and specific regulating programs, suggest a promising method to alleviate this condition. However, the validity of this approach remains pending verification. Beyond space disease, the study advocates for a comprehensive diagnostic framework, considering factors such as onset time, rotational dynamics of visceral organs, JingQi pathways, and optimal physiological function time. Treatment strategies focusing on regulating visceral organ rhythms offer a new perspective for analyzing the etiology of diverse diseases.

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1. Introduction

Space disease, characterized by complex symptoms, poses a persistent challenge in the realm of astronaut health. Despite extensive efforts, traditional diagnostic methods have failed to pinpoint its cause. This investigation undertakes a comparative exploration between the rotational dynamics of the twelve-organ presidency and circadian rhythms, unveiling a consistent stagnation in the visceral organ rhythm of space astronauts during the president period of Sanjiao. Intriguingly, on Earth, human visceral organ rhythm follows a distinct pattern during the same period. The pivotal question arises: could this abnormal visceral organ rhythm be the underlying trigger for space disease? In examining the president period of Sanjiao, where all membrane-doors of the twelve-organ system open, coupled with a cessation of JingQi flow, a correlation emerges with the "bowel movements suppressed" state in the Circadian rhythm at 22:30. Building upon experiments conducted on Earth, which demonstrate the potential of an Organ Rhythm Conditioner and specific regulating programs to alter JingQi flow during this period, a hypothesis emerges: can this method break the prolonged "bowel movements suppressed" state observed in space astronauts and provide a solution to space disease? While this proposition awaits verification, the study extends its scope to advocate for a comprehensive diagnostic paradigm encompassing factors such as onset time, rotational dynamics of visceral organs, JingQi pathways, optimal physiological function time, and characteristic functional substances. The focus on treatment through the regulation of visceral organ rhythms not only holds promise for space-related health challenges but also presents a novel perspective for understanding and addressing a spectrum of difficult and miscellaneous diseases.

2. Challenges on Astronaut Health

2.1. Health Challenges Encountered by Long-term Astronauts

Long-term astronauts confront significant health challenges, including issues like heart disease and osteoporosis. Furthermore, research indicates a potential risk of enduring genetic changes in astronauts.

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2.2. Necessity of Robust Health Support System

The persistence of health problems, particularly those with the potential for permanent genetic alterations, is incompatible with human reproduction. Given that space migration is a shared aspiration among humanity, the development of a robust Health Support System for Space Astronauts becomes not only imperative but also holds immense practical and strategic value.

3. Problem Analysis

With the identification of over 10,000 complex diseases, navigating this vast array of ailments can be overwhelming. Faced with such intricate symptoms, it prompts us to reconsider our approach. Instead of adhering solely to the traditional method of seeking pathological markers for diagnosis, perhaps we should explore alternative perspectives and contemplate the fundamentals of a healthy life.

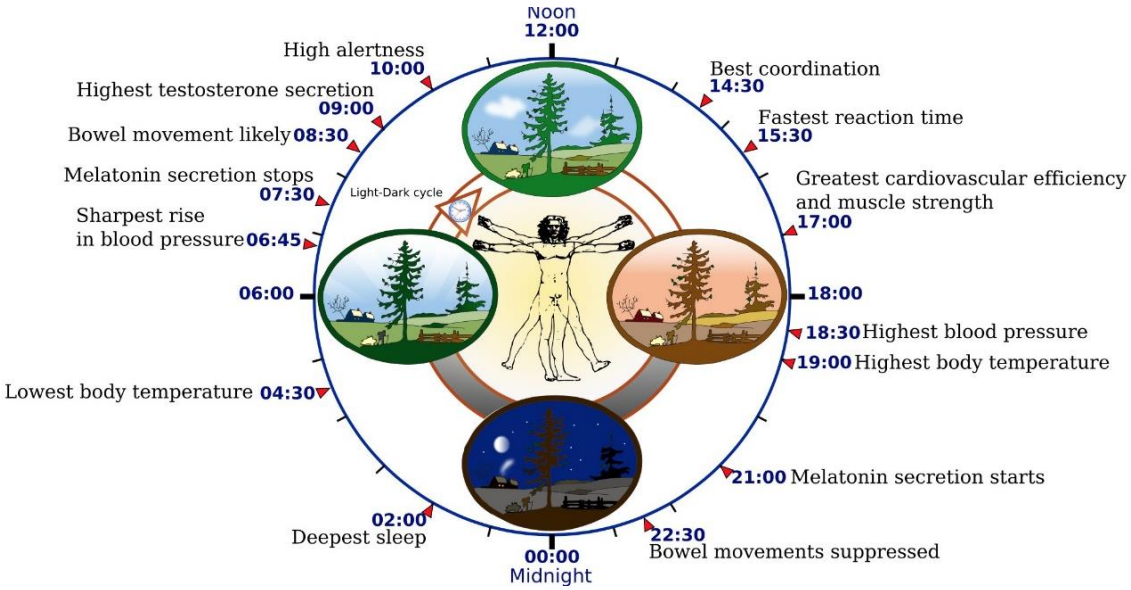


Figure-1 The optimal physiological functions of human body's circadian rhythm [1]

4. Circadian Rhythm - Unraveling the Essence of Biological Timing through Modern Science

The breakthroughs in molecular research on biological rhythms, honored with the 2017 Nobel Prize, have significantly advanced our understanding of circadian rhythms. This exploration primarily delves into the molecular intricacies, unveiling the fundamental essence of the biological circadian rhythm. The rhythmic orchestration of the human body's optimal physiological functions over a 24-hour cycle, propelled by melatonin, is vividly illustrated (refer to Figure 1).

At 2:00, the body experiences its deepest sleep, followed by the lowest body temperature at 4:30. A surge in blood pressure occurs at 6:45, with melatonin secretion halting at 7:30. The body's inclination toward bowel movement surfaces around 8:30, and the secretion of testosterone peaks at 9:00. This rhythm continues with heightened alertness at 10:00, optimal coordination at 14:30, the fastest reaction time at 15:30, and the pinnacle of cardiovascular efficiency and muscle strength at 17:00. Subsequently, blood pressure peaks at 18:30, body temperature at 19:00, and melatonin secretion recommences at 21:00. Notably, at 22:30, bowel movement is suppressed [2].

This prompts an intriguing question: Does the secretion of melatonin indeed instigate such a diverse array of optimal functional expressions within the human body?

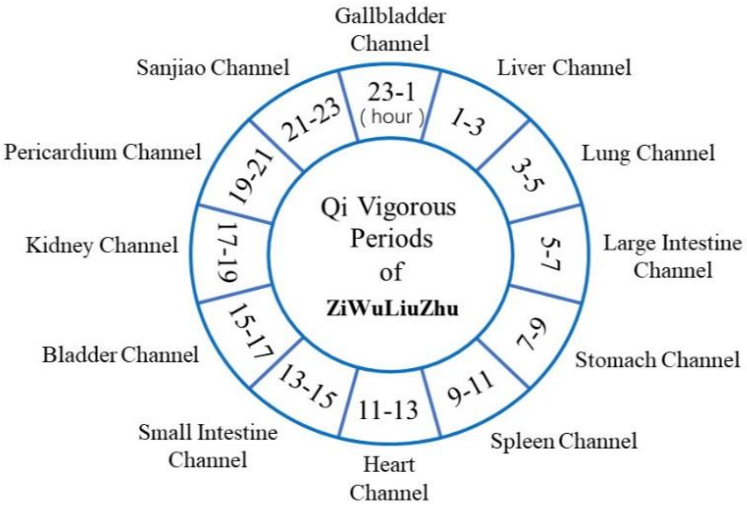


Figure-2 Schematic of JingQi vigorous period rotating around the Twelve-channel corresponding to the standard time period of the ZiWuLiuZhu channel theory the TCM recorded.

5. ZiWuLiuZhu - Traditional Chinese Medicine's Twelve-channel Rhythm

In the context of Traditional Chinese Medicine (TCM), the ZiWuLiuZhu channel theory outlines a rhythmic pattern for the Twelve-channel. According to this theory, the Twelve-channel experiences a period of JingQi vigor lasting 2 hours during odd-numbered hours, while the remaining hours signify a time of JingQi feebleness. This prompts a crucial question: What discernible physiological performances can be attributed to the states of JingQi vigor and JingQi feebleness within these Twelve-channel rhythms?.

6. Comparative Study between the 24-Hour Circadian Rhythm and ZiWuLiuZhu Rhythm

Through a comparative study, a compelling revelation emerged, establishing a temporal correlation between the optimal physiological functions of the body's circadian rhythm and the rhythm stipulated by ZiWuLiuZhu. The interconnection of these two rhythms in time is succinctly illustrated in the following table:

Comparisons of Special Function Available Time about Circadian Rhythm and Standard Time Period of ZiWuliuZhu Theory

Serial Number	Time	Special Function Available	Corresponding Channel Vigorous Period of ZiWuliuZhu Theory	Corresponding Standard Time Period of ZiWuliuZhu Theory
1	2:00	Deepest sleep	Period of Liver channel	1:00-3:00
2	4:30	Lowest body temperature	Period of Lung channel	3:00-5:00
3	6:45	Sharpest rise in blood pressure	Period of Large Intestine channel	5:00-7:00
4	7:30	Melatonin secretion stops	Period of Stomach channel	7:00-9:00
5	8:30	Bowel movement likely	Period of Stomach channel	7:00-9:00
6	9:00	Highest testosterone secretion	Period of Stomach channel or Spleen channel	7:00-9:00 或 9:00-11:00
7	10:00	High alertness	Period of Spleen channel	9:00-11:00
8	14:30	Best coordination	Period of Small Intestine channel	13:00-15:00
9	15:30	Fastest reaction time	Period of Bladder channel	15:00-17:00
10	17:00	Greatest cardiovescular efficiency and muscle strength	Period of Bladder channel or Kidney channel	15:00-17:00 或 17:00-19:00
11	18:30	Highest blood pressure	Period of Kidney channel	17:00-19:00
12	19:00	Highest body temperature	Period of Kidney channel or Pericardium channel	17:00-19:00 或 19:00-21:00
13	21:00	Melatonin secretion starts	Period of Pericardium channel or Sanjiao channel	19:00-21:00 或 21:00-23:00
14	22:30	Bowel movement suppressed	Period of Sanjiao channel	21:00-23:00

Table 1. Comparison table of the physiological functions of human circadian rhythm and the Twelve-channel theory of ZiWuLiuZhu

7. Rotating Presidency of Twelve-organ (RPTO)

Within the Rotating Presidency of Twelve-organ (RPTO), we've uncovered a dynamic visceral organ rhythm. Each visceral organ features two crucial membrane-doors [4] facilitating connections between the intra-channel of the organ and the body-channel spanning the coelom, body, head, and limbs. These membrane-doors collectively form a semi-permeable membrane network, and their orchestrated opening and closing dictate the connectivity state between the intra-channel of the organ and the body-channel **[3]**. The intricate rotation of the twelve-organ unfolds across three distinct stages: the handover period, preparing period, and president period. These stages are meticulously monitored, with their physiological processes discernible through waveform changes. During the handover period, characteristic functional substances from the previous president organ traverse the connective pathway, facilitated by the cooperative action of the two membrane-doors originating from the organs above. The subsequent preparing period is dedicated to crafting new systemic pathways, anticipating the forthcoming duties after assimilating characteristic functional substances from the predecessor. Finally, the president period marks the onset of the new leader, opening the two membrane-doors to connect with the entire body channel system. This unleashes the assimilated characteristic functional substances, orchestrating their flow throughout the tissues, and initiating dominion over the comprehensive metabolism of the entire body.

Figure-3 Diagram of the change process of the membrane-doors state and the corresponding featured waveform at each stage during the rotation period of the Large Intestine

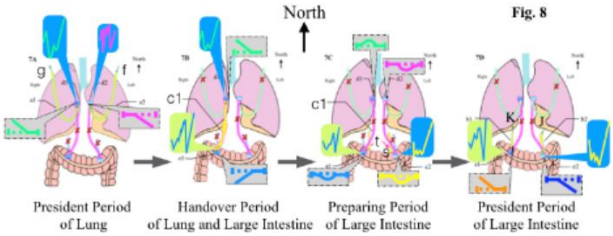
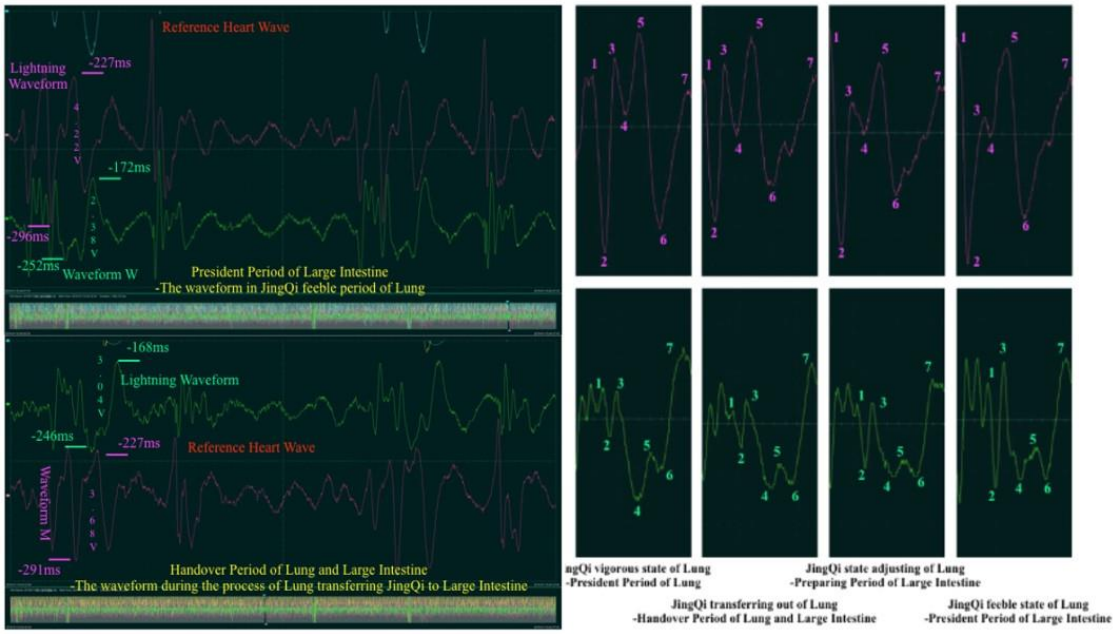


Figure 4 (Left): Waveform Illustrating the Synchronized Beating of the 2 Membrane-Doors during the President Period of the Lung; (Right): Diagram Depicting the Distinctive Waveform of the 2 Membrane-Doors' Beat in Various States of the Lung



The experimental findings reveal a fundamental consistency between the rotation sequence and time periods of the Rotating Presidency of Twelve-organ (RPTO) and the ZiWuLiuZhu rhythm. Essentially, this synchronization implies that the twelve organs systematically exchange substances and information, adhering to a predetermined sequence and schedule each day. This structured process not only facilitates the transfer of vital elements between correlated organs but also orchestrates a self-regulating metabolic dance centered around the harmonious functioning of these twelve organs.

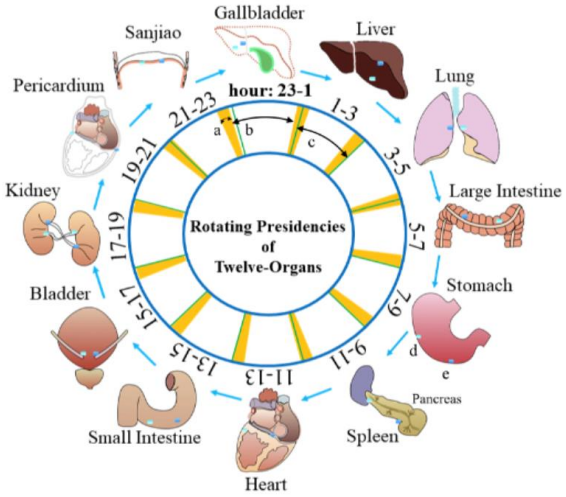


Figure-5 The diagram of the correspondence relationship between the rotation order and the time period of RPTO

8. The Rhythm of RPTO Reveals the Physiological Logic

The twelve organs exhibit diverse organizational structures, each boasting distinct physiological functions. The lungs facilitate breathing, the large intestine manages excretion, the stomach oversees food decomposition, and the spleen/pancreas directs marking and assimilation. The heart orchestrates dynamic output, the small intestine handles absorption, the bladder collects water and fluids, while the kidneys manage water and fluid metabolic balance. The pericardium oversees command transmission, Sanjiao specializes in resetting and synchronization, the gallbladder focuses on consolidation, and the liver takes charge of clearing and rejection.

This intricate network of orderly information communication and the interlocking transfer of materials among correlated organs form the underlying logic of the human body, showcasing optimal physiological functions with distinctive characteristics at different times. Health, in essence, emerges from the synchronized division of labor and cooperation among the twelve organs, guided by the temporal elements and systematic regulation governing subtle metabolism.

Traditional Chinese Medicine (TCM) underscores a holistic perspective and systematic approach, primarily tied to the correlation between the twelve organs, the barrel theory, and the five elements. Examining the transfer and inheritance of characteristic functional substances through connective channels during the handover period reveals a critical insight – damage to one visceral organ renders others susceptible, eliminating the possibility of immunity. Furthermore, from the standpoint of the sequential function of the twelve organs, the entire rotation unfolds with a built-in self-healing mechanism. Ensuring the normal operation of the RPTO rhythm holds the potential for disease self-healing without resorting to pharmaceutical interventions.

9. Significance of the Comparative Study of RPTO with Circadian Rhythm and ZiWuLiuZhu

9.1. Advancing Physiological and Biochemical Mechanism Understanding

The intricate coordination within the Rotating Presidency of Twelve-organ (RPTO) reveals fascinating insights into physiological and biochemical mechanisms, as exemplified in Table 1. Consider the achievement of deep sleep at 2:00—attributed to the liver's membrane-doors orchestrating the open-close state and activating a disjunctive pathway between the liver’s intra-channel and body-channel. This process amplifies the liver's "heparin" production, fostering an anticoagulant effect throughout the body, promoting exchange and transport through arteriovenous anastomosis branches.

Similarly, the highest blood pressure at 18:30 results from the kidney's membrane-doors engaging an open-close state, initiating a disjunctive pathway between the kidney’s intra-channel and the body-channel. This prompts the kidney's "adrenaline" to surge, diffusing extensively in body tissues and cells, ultimately absorbed into the blood circulation system via passive venous anastomosis branches.

The intriguing question arises during the 7:30 cessation of melatonin secretion—is the human body generally in its most acidic state during the stomach's rotation period? Does acidity act as the trigger for melatonin to cease? These inquiries signify the multifaceted insights gained through a holistic examination of RPTO in conjunction with circadian rhythm and ZiWuLiuZhu. In conclusion, the comparative study of RPTO with circadian rhythm and ZiWuLiuZhu offers a fresh perspective, propelling advancements in understanding physiological and biochemical mechanisms.

9.2. Positive Impacts on Disease Diagnosis and Treatment

The etiological analysis, presented in Table 1, delves into complexities that necessitate a nuanced approach.

Correlative Factors Analysis: Consider heart disease fatalities between 7:00 to 9:00 and 15:00 to 17:00[5]. Unraveling the internal mechanisms of these temporal patterns remains elusive in modern medicine. However, a comprehensive analysis based on symptoms-onset time, rotating visceral organ, rotating stage, JingQi pathway, and time of optimal physiological function reveals intriguing patterns. For instance, the stomach's rotation period from 7:00 to 9:00 and the bladder's rotation period from 15:00 to 17:00, both in connection states between the intra-channel of visceral organ and the body-channel, suggest simultaneous gastric digestion across the human channel and the blood circulation system. This intricate analysis unveils potential links to heart disease etiology, pointing towards blood viscosity index considerations **[6]**.

Health Analysis for Astronauts: Concerning astronaut health, symptoms like head congestion, distension, headache, eye discomfort, and nose blockage are widespread. Post-space travel, dizziness or fainting affects a significant percentage of astronauts, accompanied by cardiovascular regulation issues, muscle atrophy, bone structure alterations, bone density reduction, fracture susceptibility, electrolyte disorders, and coagulation issues. A pivotal observation indicates that the visceral organ rhythm of space astronauts consistently resides in the state of the president period of Sanjiao—a condition mirroring the Earthly state between 21:00-23:00**[7]**, characterized by halted JingQi flow in the entire human channel. This observation sparks contemplation—does prolonged residence in the president period of Sanjiao contribute to space disease? The answer leans towards affirmation, suggesting that an extended president period of Sanjiao shifts the metabolic model from diversified roles to a singular play, jeopardizing overall human health.

10. Solution and Recommendations

10.1. Unveiling the Biological Mechanism

Building upon our earlier analysis, we hypothesize that the occurrence of "space disease" in astronauts stems from the halted rhythm of Rotating Presidency of Twelve-organ (RPTO) at the president period of Sanjiao. Thus, rectifying the disrupted organ rhythm on Earth for space astronauts becomes a pivotal solution to address "space disease."

10.2. Technological Principles and Project Implementation

In response to this understanding, we have developed a cutting-edge wearable solution—the Organ Rhythm Conditioner (see Figure 6). This innovative device utilizes golden fingers that intricately match with body-channel lines on the wrist and ankle. By leveraging a dynamic magnetic field, it introduces regulated changes into the corresponding body-channels, effectively managing the flow of JingQi. The device comes equipped with a specially designed program tailored for astronauts, facilitating seamless coordination between the twelve-organ system and the human channel. This orchestration aims to restore the RPTO rhythm to its normal functioning state. To validate our hypothesis and test the prevalence of "Bowel movement suppressed" among space astronauts, we propose two essential approaches. Firstly, astronauts can wear the Organ Rhythm Conditioner on Earth, enabling us to determine whether the observed "space disease" is indeed a consequence of the RPTO rhythm being halted at the president period of Sanjiao. Alternatively, the device can be deployed in space for astronauts to wear, allowing us to assess the restoration of normal RPTO rhythm and conducting comprehensive tests. These endeavors collectively represent a fundamental exploration into overcoming the challenges associated with space immigration, offering promising prospects for the overall health and well-being of astronauts.

11. Expected Results

Over the past decade, our extensive data analysis of twelve-organ rotations has revealed a consistent rotation sequence but marked changes in rotation period and duration, evolving from orderly patterns to random chaos [8].

This exploration into the rhythm of Rotating Presidency of Twelve-organ (RPTO) is poised to unveil new perspectives for humanity.

11.1. Dark Magnetic Field Study

The study of dark magnetic fields and their influence on coordinating twelve-organ rhythm using changeable magnetic fields presents a compelling avenue for exploration. The impact of north and south magnetic fields on JingQi flow direction and their correlation with events like the 2022 Yunnan elephant northbound incident raises intriguing questions about the existence and significance of dark magnetic fields.

11.2. Enriching to the Medical System

Our findings promise significant contributions to the medical field. The knowledge of organ rhythm offers a refined approach to blood tests, enabling precise identification of organ involvement. Understanding the extended rotation times of organs since the 2018 coronavirus epidemic sheds light on challenges faced by COVID-19 vaccines, impacting immune labeling processes and suggesting new considerations for vaccine administration.

11.3. Chaos in RPTO Rhythm: An Opportunity for Broader Exploration

The chaotic time factors observed in the rhythm of RPTO, specifically the deviation from fixed two-hour periods since 2018, prompt a deeper exploration into the relationship between humans, nature, and even planets in our solar system. Comparing visceral organ rotation data with planetary positions may uncover key factors influencing organ rhythm, providing insights into the human body's control system.

We anticipate that extensive research on the RPTO process and its influencing factors will unravel the intricacies of the human body's control system. The rotating presidency of twelve-organ serves as a regulatory software orchestrating metabolism and integrating the functions of the eight major organ systems. This exploration may lead to a better understanding of animal instincts, paving the way for sensory enhancement devices and unlocking latent human capabilities that transcend those of animals.

12. Conclusion

In unraveling the perplexing enigma of space disease among astronauts, this study has ventured into the intricate interplay between the rotational dynamics of the twelve-organ presidency and circadian rhythms. The revelation of a consistent stagnation in the visceral organ rhythm during the president period of Sanjiao for space astronauts sparks profound inquiries into the fundamental triggers of space-related health challenges. Experiments on Earth, featuring an Organ Rhythm Conditioner and specialized programs, offer a promising avenue for potential solutions, although rigorous validation is requisite.

Extending beyond the immediate realm of space health, our investigation advocates for a holistic diagnostic framework. This approach considers onset time, rotational dynamics of visceral organs, JingQi pathways, and optimal physiological function time, offering a novel perspective for comprehending and addressing a spectrum of complex diseases.

As we anticipate the results of our endeavors, exploring the chaotic time factors within the rhythm of Rotating Presidency of Twelve-organ (RPTO) holds promises for both medical and broader scientific understandings. The study’s potential impacts range from the elucidation of dark magnetic fields and their influence on organ rhythms to enriching existing medical systems by refining blood testing methodologies. Moreover, the observed chaos in RPTO rhythm since 2018 presents an unprecedented opportunity for exploring the intricate relationship between humans, nature, and planetary influences, transcending the conventional boundaries of our comprehension.

In essence, the Rotating Presidency of Twelve-organ emerges as a nuanced control system, orchestrating metabolism and integrating the functionalities of the eight major organ systems. As we peer into the future, this study lays the foundation for a deeper understanding of our own physiological intricacies, potentially unlocking untapped capabilities that may reshape our perception of health, disease, and the very essence of our existence.

13. References

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14. Biography

Wenjun Fo, an independent researcher, is currently dedicated to unraveling the essence of Human Channels. In his research, he has observed certain phenomena that appear to be approaching objectivity through empirical instruments. Specifically, persistent feelings of extreme fatigue, excessive sleepiness, localized pain, or abnormal awakenings with nocturnal restroom visits over several days may indicate congestion within the intra-organ channels. The occurrence time corresponds to a specific time period, revealing potential issues with the associated visceral organ. This serves as an early cautionary signal for impending diseases originating from the Human Channels, as detailed in the referenced time table list in his article. Exploring the intricate ways Traditional Chinese Medicine (TCM) decodes complex and diverse diseases, Fu's series of articles shed light on the systematic understanding of time-based medicine. Delve into his publications to comprehend how TCM navigates through challenging ailments and unveils the underlying regularities governing temporal medicine.

15. Conflict of Interest

The author have no conflict of interest to report.

16. Funding

No external funding was received to support this study.