

Literature Analysis of Treating Insomnia from the Heart

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Abstract: In order to provide a reference for clinical research and prescription of insomnia by analyzing the distribution of syndrome types and medication rules of TCM, treating insomnia from the perspective of heart. We retrieved the "literatures on treating insomnia of the heart" from CNKI and established the database from December 2011 to December 2021. And we statistically analyzed the literature types, syndrome type distribution, and medication rule. Resultly, among the 828 literatures included, 718 literatures related to clinical research were the most, accounting for 87% of the total, involving a total of 24 syndrome types, among which, heart spleen deficiency (417 cases, 52%) and disharmony between heart and kidney (256 cases, 32%) accounted for the highest proportion. The most commonly used prescription for insomnia with heart spleen deficiency was spleen-restored decoction. The most frequently used drugs were semen ziziphi spinosae, Astragalus membranaceus, and Angelica sinensis. The most commonly used prescription for disharmony between heart and kidney insomnia was self-made prescription, and the most frequently used drugs were Coptis chinensis, cinnamon, and semen ziziphi spinosae. In conclusion, treating insomnia of the mind has a rich theoretical and clinical basis and can be dialectically used in clinics.

1. Introduction

Insomnia is a common clinical disease, which is mainly characterized by difficulty in falling asleep, easy to wake up, dreaminess, and impaired daytime function [1]. With the acceleration of the pace of social life, the incidence of insomnia is increasing day by day. An epidemiological survey shows that 24.6% of people in China have different degrees of sleep problems [2]. Insomnia can increase the risk of coronary heart disease, stroke, hypertension, and other diseases [3-4]. Western medicine is mainly based on sedative and hypnotic drugs, and the treatment effect is good in the short term, but it is often accompanied by abdominal pain, diarrhea, dizziness,

drowsiness, hallucinations, insomnia and other adverse reactions [5]. Traditional Chinese medicine pays attention to dialectical treatment and has fewer side effects, which is increasingly accepted by people. Traditional Chinese medicine believes that people's sleep is mainly controlled by the mind, so clinical dialectic mainly starts from the heart. In recent years, the literature on the treatment of insomnia of the heart has surged. This paper aims to summarize and sort out the main literature types, common syndrome differentiation and medication rules of insomnia of the heart, to provide reference for the development of clinical research and prescription medication.

2. Data and Methods

2.1. Source of Data

The scope of literature retrieval is mainly the articles related to the treatment of insomnia in the heart of traditional Chinese medicine included in China National Knowledge Infrastructure, including journals, conferences, graduation papers, etc. The retrieval time is from December 2011 to August 2023.

2.2. Search Strategy

Entering China National Knowledge Infrastructure, 'insomnia', 'insomnia' and 'sleep disorder' were used as the subject words for retrieval, and then 'heart' and 'Shaoyin' were used as the subject words for secondary retrieval in the results. The time was set from December 2011 to August 2023.

2.3. Napai Standard

Inclusion criteria: (1) review literature; (2) Theoretical research literature; (3) Expert experience literature; (4) Experimental research literature; (5) Clinical research literature: including the literature of prescription treatment alone, the literature of prescription combined with acupuncture treatment, the literature of prescription combined with other therapies, the literature of acupuncture treatment alone, and the literature of other therapies alone; (6) Clearly mention the literature on the treatment of insomnia from the heart.

Exclusion criteria: (1) literature on simple western medicine treatment or unrelated to traditional Chinese medicine treatment of insomnia; (2) Simple animal experiment; (3) Clinical research literature without clear syndromes or syndromes unrelated to the heart; (4) literature on insomnia as an accompanying disease of other diseases; (5) Popular science or health literature; (6) Republished literature selected one of the most complete.

2.4. Establishment and Specification of Database

After retrieval, by reading the title and abstract of the literature, the literature that meets the standard is selected, and 500 articles are selected as a group to export the search results in the form of catalogues. After reading the full text, the literature with uncertain screening were screened twice according to the inclusion and exclusion criteria. The final included literature is imported into Excel 2016 software to establish a database and extract information, including title, first author of the article, publication year, literature type, syndrome differentiation, intervention measures, prescriptions, etc. The screening and entry of data adopts the method of one person entry and one person check. The literature of differences is determined by the two parties after discussion to ensure the accuracy of data entry and the reliability of analysis results.

Referring to ' internal medicine of traditional Chinese medicine ' [6], ' diagnostics of traditional Chinese medicine ' [7], ' Pharmacopoeia of the People 's Republic of China ' (2020 edition) [8] and combined with clinical data, the included data were standardized. For example, ' heart deficiency and timidity ' is unified as ' heart and gallbladder qi deficiency ', ' heart yin deficiency ' is unified as ' heart yin deficiency ', ' cornus officinalis ' is unified as ' cornus officinalis ', and ' raw rehmannia ' is unified as ' raw rehmannia '.

2.5. Statistical Methods

Excel 2016 software was used to count the frequency of literature types and syndrome differentiation, types of the included data, and the involved prescriptions were input into the traditional Chinese medicine inheritance auxiliary platform (V2. 5) to analyze the frequency of medication and the dosage of drugs.

3. Results

A total of 3185 articles were obtained after retrieval, and 960 articles were obtained after excluding unrelated articles by reading titles and abstracts. Furthermore, 132 articles were excluded after reading the full text according to the inclusion and exclusion criteria, and finally 828 articles were included.

3.1. Literature Type Analysis

Among the 828 articles included, the clinical research literature was the most, with a total of 718 articles, accounting for 87 %, followed by expert experience, review, theoretical research, and experimental research (see Table 1). The literature of single prescription treatment in clinical research was the most, accounting for 22 % of the total (see Table 2).

Table 1: Statistical analysis of 828 literature types (Article)

Document type	Quantity	Proportion
Clinical research	718	87%
expertise	36	4%
survey	31	4%
theoretical research	29	4%
experimental study	14	2%
grand total	828	100%

Table 2: Statistical Analysis of Intervention Measures in 718 Clinical Research Literatures(Articles)

Document type	Quantity	Proportion
Single prescription drugs	186	22%
other therapies	180	22%
Acupuncture alone	173	21%
Prescription combined with other therapies	69	8%
Acupuncture combined with other therapies	63	8%
Prescription combined with acupuncture	47	6%
grand total	718	87%

3.2. Syndrome Distribution Analysis

In the included literature, after standardized treatment, a total of 24 types of syndromes were involved, including 5 types of syndromes involving the heart alone, 15 types of syndromes involving two zang-fu organs, and 4 types of syndromes involving three zang-fu organs and above. The total frequency was 793 times, and there were 10 types of syndromes with more than 2 times of occurrence. Among them, the heart and spleen deficiency type was the most, with a total of 417 times, accounting for 53 % of the total, followed by the heart and kidney disharmony type, liver fire disturbing heart type, phlegm heat disturbing heart type, etc. (see table 3).

Table 3: Distribution of syndromes with more than 2 occurrences (time)

Syndrome type or viscera	Clinical research	Theoretical research	Survey	Expertise	Experimental study	Grand total
cardiosplenic asthenia	386	4	15	6	6	417
carduonephric disharmony	229	10	4	8	5	256
liver fire harassing the heart	40	0	3	2	1	46
phlegm heat disturbing heart	28	1	2	3	0	34
pyrophlegmatic mania	6	0	0	2	0	8
Yin deficiency and qi stagnation, internal heat disturbance heart	6	0	0	0	0	6
Heart gallbladder qi deficiency	4	0	0	0	0	4
heart yin deficiency	4	0	0	0	0	4
heart and kidney-yin deficiency	0	2	0	1	0	3
Heart and kidney yin deficiency and spleen deficiency	1	0	0	0	1	2

3.3. Analysis of Medication Rule

This article analyzes the medication rules of insomnia with deficiency of both heart and spleen and disharmony between heart and kidney. Only clinical research literatures on simple use of prescriptions, specific dosage of drugs, and definite curative effect are included, and the dosage form is limited to decoction. (In order to control the simplicity, this paper focuses on the analysis of the basic aspects of each article and the scope of the analysis).

There were 83 articles on the treatment of insomnia with heart and spleen deficiency with traditional Chinese medicine alone. After screening according to the above criteria, a total of 61 articles were included, involving 19 prescriptions, of which the most commonly used was Guipi Decoction, with a total of 43 times (see Table 4). A total of 54 Chinese medicines were involved, with a total frequency of 765 times. The most frequently used drug was suanzaoren, and the highest frequency of use of the drug was 15g, with a total of 28 times. (See Table 5).

There were 46 articles on the treatment of insomnia of heart-kidney disharmony with traditional Chinese medicine alone. After screening according to the above criteria, 32 articles were included,

involving 25 prescriptions. Among them, self-made prescriptions were the most used, with a total of 14 times (see Table 4). A total of 74 flavors of traditional Chinese medicine were involved, with a total frequency of 323 times. Among them, Rhizoma Coptidis was used the most frequently, with a total of 24 times, and the most commonly used amount was 10 g, with a total of 7 times. (See Table 5).

Table 4: The number of prescriptions used in insomnia of heart and spleen deficiency and heart and kidney disharmony (time)

Cardiosplenic asthenia	Quantity	Carduonephric cisharmony	Quantity
Modified Guipi Decoction	43	self-made formula	14
self-made formula	12	Jiaotai pill addition and subtraction	6
Guipi decoction combined with Guizhi plus Longgu Muli decoction	1	jiaotai pills	3
Chaihu Shugan Powder combined with Guipi Decoction	1	Addition and subtraction of Zhizichi decoction	2
heart-nourishing decoction	1	ziziphi spinosae decoction	1
qizao anshen decoction	1	emperor of heavens special pill to tonify the heart	1
Shugan Jianpi Anshen Decoction	1	Zuogui pill and Jiaotai pill addition and subtraction	1
Pinellia sorghum rice soup	1	Qingxin decoction combined with Zhenzhong Dan addition and subtraction	1
		Six Ingredients Rehmannia Decoction and Jiaotai Pill	1
		Tianwang Buxin Dan and Jiaotai Pill addition and subtraction	1
		Modified huanglian ejiao decoction and liuwei dihuang pill	1

Table 5: Drugs with the highest frequency of use in the top five and the dosage with the highest frequency of occurrence

Cardiosplenic asthenia	Frequency (times)	Dosage and frequency	Carduonephric cisharmony	Frequency (times)	Dosage and frequency
spine date seed	55	15g(28)	Huanglian	24	10g(7)
Astragalus flavone	54	15g(16)	cinnamon	21	3g(6)
Radix Angelicae Sinensis	53	10g(23)	spine date seed	19	30g(6)
polygala tenuifolia	52	10g(17)	polygala tenuifolia	15	10g(7)
woody incense	49	6g(19)	indian bread with hostwood	13	15g(4)

4. Discussions

Insomnia in Chinese medicine is also known as 'insomnia', 'insomnia', 'not lying', which is a kind of disease characterized by frequent inability to obtain normal sleep. 'Jingyue Encyclopedia of insomnia' has said: 'Gaimei is based on Yin, God is also the master, Shen'an is insomnia, Shen'an is insomnia. Chinese medicine believes that insomnia is closely related to the mind. The heart, the officer of the monarch, the gods, the heart of the blood, the master of the five zang and six fu organs, dominates the life activities of the human body. Yin blood deficiency, loss of heart support or evil heat disturbing the heart, and God's failure to abide by the house can lead to insomnia. In clinical practice, the dialectical treatment of insomnia is mostly based on the heart. Gao Ronglin believes that the dysfunction of the heart is the main cause of insomnia [9]. Liu Jizu believes that the pathogenesis of insomnia is not only the heart but also the heart [10].

This article includes the literature on the treatment of insomnia of the heart in the past decade. After summarizing, it was found that among the 828 articles, the clinical research literature was the most, with a total of 718 articles, accounting for 87 %, followed by the expert experience literature, with a total of 36 articles. There are relatively few reviews, theoretical studies, and experimental studies. In the clinical research literature, the intervention measures were the most used prescriptions, 186 articles accounting for 22 % of the total. Liu et al. [11] used Jiaotai Pills to treat 50 cases of heart-kidney disharmony insomnia. After treatment, the patient's sleep efficiency was improved, the total sleep time was prolonged, and the sleep latency and awakening time were shortened. Other therapies (180 articles, 22 %) and acupuncture treatment alone (173 articles, 21 %) were also relatively more. Zhang Yong et al. [12] used Yunzhou pushing abdomen method to treat 25 cases of insomnia with deficiency of both heart and spleen, with an effective rate of 91.30 %. Niu Qiyun et al. [13] treated 30 cases of insomnia with deficiency of both heart and spleen by acupuncture at Shenshu, Ganshu, Pishu, and other backshu points. Compared with the before treatment and control group, the scores of Pittsburgh Sleep Quality Index Scale were decreased after treatment, and the scores of Quality of Life Comprehensive Assessment Questionnaire-74 were improved, and the patient's condition and life were improved.

In the included literature, there are relatively many types of insomnia, such as heart and spleen deficiency type, heart and kidney disharmony type, liver fire disturbing heart type, phlegm heat disturbing heart type, and there are deficiency syndromes and empirical evidence. 'Jingyue Encyclopedia · insomnia' is once proposed: 'Insomnia syndrome is different, but only the word "evil" is known... One by the disturbance of evil, one by the lack of nutrient qi, evil is more empirical, no evil is all deficiency, so the clinical should be the first to identify the actual situation to the evil righting; according to the analysis of the summarized syndrome types, in addition to the heart, it involves the spleen, kidney, liver and other organs. For example, 'the ancient and modern medical system · insomnia' believes that excessive thinking hurts the spleen, spleen, blood deficiency, heart and mind loss, or spleen dampness generates phlegm, phlegm generates heat, and disturbs the heart and mind to cause insomnia. There are also insomnia caused by kidney water deficiency, inability to relieve the heart, liver depression transforming into fire, and disturbing the heart and mind [14]. The human body is an organic whole, and the structure of each organ and body is inseparable. Functional coordination, interaction, and pathological mutual influence [15]. Its pathogenesis also only includes the difference between 'primary and secondary', and there is no difference between 'yes' and 'no'. Therefore, it is necessary to take into account other organs while treating from the heart [16].

Based on literature analysis, insomnia with deficiency of both heart and spleen has the highest frequency. The heart governs blood and the spleen generates blood. The heart governs blood and the spleen governs blood. 'Class syndrome treatment · insomnia treatment' has words: 'thinking

about injuring the spleen, spleen, blood loss, insomnia after years '. The heart stores the spirit and the spiritual nourishment depends on the spread of the spleen essence. Therefore, insomnia is closely related to the heart and spleen. The treatment should be based on strengthening the spleen, nourishing the heart, and tranquilizing the mind. The clinical treatment is mainly based on the addition and subtraction of Guipi Decoction. "Guipi Decoction" was first seen in the "Jisheng Prescription" of Yan Yonghe in the Song Dynasty, which was composed of ginseng, longan meat, atractylodes, astragalus, white poria, fried jujube kernel, woody, and roasted licorice. Later generations added Polygala, angelica, and other drugs' to regulate the mind and soul of the four zang organs, all of which are attributed to the spleen ', playing the functions of invigorating the spleen and replenishing qi, nourishing the blood and nourishing the heart [17].

The frequency of insomnia of heart-kidney disharmony type is second only to heart spleen deficiency . The upper Jiao of the heart belongs to Yang, the five elements belong to fire, the lower Jiao of the kidney belongs to Yin, the five elements belong to water, the heart hides the spirit, the kidney hides the essence, the heart is the monarch fire, the kidney is the ministerial fire, the intersection of heart and kidney is the combination of water and fire, the spirit is interoperable, and the monarch is at ease. If you worry too much, depression and fire, consumption of heart Yin, or chronic disease, kidney Yin deficiency, deficiency Yang hyperactivity, upper disturbance of heart spirit [18], so the combination of water and fire, heart and kidney disharmony leads to insomnia. There are many self-made prescriptions used in the clinic, but most of them are based on Jiaotai pill, which is based on ' Korean medicine'. Coptidis bitter cold, purging heart fire, so that the heart fire down to kidney water, cinnamon pungent, hot, encouraging kidney water steaming, streamlined flavor, and unique compatibility [19].

In the treatment of insomnia, most doctors are from the heart. In recent years, the literature on the treatment of insomnia of the heart has gradually increased. This paper summarizes the literature in the past ten years and explores the types of literature, syndrome distribution, and medication rules. In order to provide reference for the development of clinical research and prescription medications, this paper also has many shortcomings. First, the bias risk assessment of the article is not carried out, and the quality of the article is uneven. Second, the data source is relatively single, and the research results have limitations. It needs to be improved in the next research.

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If any, it should be placed before the reference section without numbering.

Data Availability

The datasets used during the current study are available from the corresponding author on reasonable request.

Conflict of Interest

The author states that this article has no conflict of interest.

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