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Efficacy and Safety of Integrated Traditional Chinese and Western Medicine in the Treatment of Postherpetic Neuralgia: A Meta Analysis

Zhengjin Zhu[1*], Jun Yan[2], Zhijin Zhao[2], Na Liang[1], Suoyu Liu[1]

[1]Shaanxi University of Chinese Medicine, Xianyang 712046, Shaanxi, China
[2]Shaanxi Provincial Hospital of Chinese Medicine, Xi'an 710003, Shaanxi, China
Author to whom correspondence should be addressed.

Abstract: ***Objective: To evaluate the efficacy and safety of integrated traditional Chinese and Western medicine in the treatment of postherpetic neuralgia (PHN) by meta-analysis. Methods: the randomized controlled trial (RCT) of integrated traditional Chinese and Western medicine in the treatment of postherpetic neuralgia published in CNKI, VIP, CBM, Wanfang and PubMed databases were searched by computer from the establishment of the database to January 2024. The retrieved literatures were independently screened by two researchers, and the quality methodology was evaluated. The original data were extracted. The Revman manager 5.4 software was used for meta-analysis. Results: a total of 577 articles were retrieved, and 32 studies were selected according to the nanodischarge criteria. The total sample size was 2957 cases, including 1508 cases in the experimental group and 1449 cases in the control group. The results of meta-analysis showed that integrated traditional Chinese and Western medicine treatment significantly improved the total effective rate [RR=1.22, 95% CI (1.18, 1.26)] and cure rate [RR=1.58, 95% CI (1.42, 1.75)]; The visual analogue scale (VAS) score [MD=-1.62, 95% CI (-1.90, -1.34)] and Pittsburgh sleep quality index (PSQI) score [MD=-2.90, 95% CI (-4.39, -1.41)] were reduced; 52, 95% CI (-4. 46, -2. 38)]; The incidence of adverse reactions was reduced [RR=0.77, 95% CI (0.60, 0.99)], and the differences were statistically significant. Conclusion: the clinical efficacy of integrated traditional Chinese and Western medicine in the treatment of postherpetic neuralgia is significantly better than that of Western medicine alone, and the safety is high. Due to the low quality of the included literature and publication bias, high-quality, multicenter randomized controlled trials are still needed to further verify the above results.***

Keywords: Postherpetic neuralgia; Integrated Traditional Chinese and Western Medicine; Meta-analysis; Randomized controlled trial.

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1. Introduction

Postherpetic neuralgia (PHN) is a neuropathic pain syndrome caused by reactivation of varicella zoster virus (VZV) [1], which is the most common chronic complication of herpes zoster [2]. Epidemiological survey shows that PHN occurs in about 10% -15% of patients with herpes zoster [3], and its prevalence continues to rise with age [4]. According to the evidence-based report of the American Academy of Neurology, the local pain of PHN will last for more than 3 months after the herpes zoster lesions subside [5], and about 30% -50% of PHN patients have pain for more than 1 year [6]. Long term chronic pain often leads to the reduction of patients' quality of life, depression, anxiety and emotional disorders, and even suicidal psychology [7]. At present, the main goal of PHN treatment is to relieve pain and improve the quality of life. Western medicine mainly adopts oral medication [8], paravertebral nerve block [9], physics [10] and other treatment methods, but some patients can not achieve the clinical expected effect, mainly including slow curative effect, prone to adverse reactions and so on [11]. In recent years, although the combination of traditional Chinese and Western medicine has been widely used in clinical treatment of postherpetic neuralgia, its curative effect is controversial. In addition, throughout the relevant studies, it is found that the treatment methods of traditional Chinese medicine are diverse, and the conclusion has not been unified. Therefore, this study used meta-analysis to evaluate the clinical efficacy and safety of integrated traditional

Chinese and Western medicine in the treatment of postherpetic neuralgia, in order to provide strong evidence for clinical trials and research.

2. Materials and Methods

2.1 Retrieval Strategy

Computer searches were conducted on CNKI, VIP, CBM, Wanfang, and PubMed databases, all from their establishment until January 2024. The key words in Chinese were "postherpetic neuralgia", "integrated traditional Chinese and Western medicine", etc; The English key words are "postherpetic neuralgia", "integrated Chinese traditional and Western medicine therapy", etc. The retrieval was carried out by combining subject words with free words, and the relevant literatures published at home and abroad on the treatment of postherpetic neuralgia with integrated traditional Chinese and Western medicine were retrieved.

2.2 Inclusion Criteria

a) Research Design: RCT literature on postherpetic neuralgia that has been publicly published both domestically and internationally; b) Research subjects: Patients with clear diagnostic criteria for PHN, aged ≥ 18 years, and no restrictions on publication type or language type; c) Intervention measures: Patients in the control group received simple Western medicine treatment, while those in the experimental group received traditional Chinese medicine oral and external application, medicinal bath fumigation, acupuncture, and cupping therapy based on the control group's treatment plan.

2.3 Exclusion Criteria

a) repeated publication or inability to obtain the full text of the literature; b) Reviews, conferences, guidelines, systematic reviews, case reports, animal experiments and other literatures; c) The experimental group and the control group were treated with integrated traditional Chinese and Western medicine; d) There was no reference to the literature that there was no difference between the baseline of the experimental group and the control group, or the consistency test of the baseline condition between the groups was not given; e. Unable to extract effective outcome indicators and incomplete data; f. Literatures with the number of cases<60 were studied.

2.4 Outcome Measure

Total effective rate, Cure rate, Visual analogue scale (VAS) score, Pittsburgh sleep quality index (PSQI) score, Pain disappearance time and adverse reactions. Total effective rate = (cured + markedly effective + effective) number of cases/total number of cases × 100%.

2.5 Literature Screening and Data Extraction

Two professionally trained researchers with a master's degree performed literature screening and data extraction independently, and the results were cross checked. In case of disagreement, the third researcher shall settle it by consensus. In the process of literature screening, first read the title and abstract, remove the literature that obviously does not meet the inclusion criteria, and then read the rest of the full text to determine whether it is included. The content of data extraction mainly includes: first author, year of publication, test method, sample size, gender, average age, average course of disease, intervention measures, course of treatment, outcome indicators, adverse reactions, etc.

2.6 Included in Research Quality Evaluation

The included literatures were evaluated by the bias risk assessment tool in Cochrane system evaluation manual 5.1.0. Specific evaluation criteria include: a) Random distribution method; b) The allocation scheme is hidden; c) The subjects were blinded; d) The researchers and outcome measurers were blinded; e) Integrity of outcome data; f) Selective reporting of research results; g) Other biases. In order to ensure the reliability of the included studies and avoid subjective quality evaluation, two researchers independently evaluated the quality of the included literatures and cross checked the results.

2.7 Statistical Processing Method

In this study, Revman manager 5.4 software was used to statistically analyze the data included in the literature. The binary variables were expressed by risk ratio (RR), and the weighted mean difference (WMD) was calculated for the continuous variables. Each effect quantity was based on 95% confidence interval (CI). X2 test was used to evaluate the heterogeneity. If p>0.1 and I2<50%, it was considered that the heterogeneity between studies was small, and the fixed effect model was used to merge the effects; If p≤ 0.1 and I2 ≥ 50%, it is considered that the heterogeneity between studies is significant. The random effect model is used to merge the effect quantity, and further sensitivity analysis or subgroup analysis is used to find the source of heterogeneity. Funnel plot was used to analyze the distribution of the included studies and detect whether there was publication bias.

3. Results

3.1 Literature Search Results

After a preliminary search, 577 relevant literatures were obtained. 278 repetitive literatures were removed manually by endnote 20 software. After a preliminary reading of the title and abstract, 224 literatures that obviously did not meet the subject of this study were excluded, and the remaining 75 literatures. After reading the full text, 32 literatures finally met the inclusion criteria [12-43]. The literature screening process is shown in Figure 1.

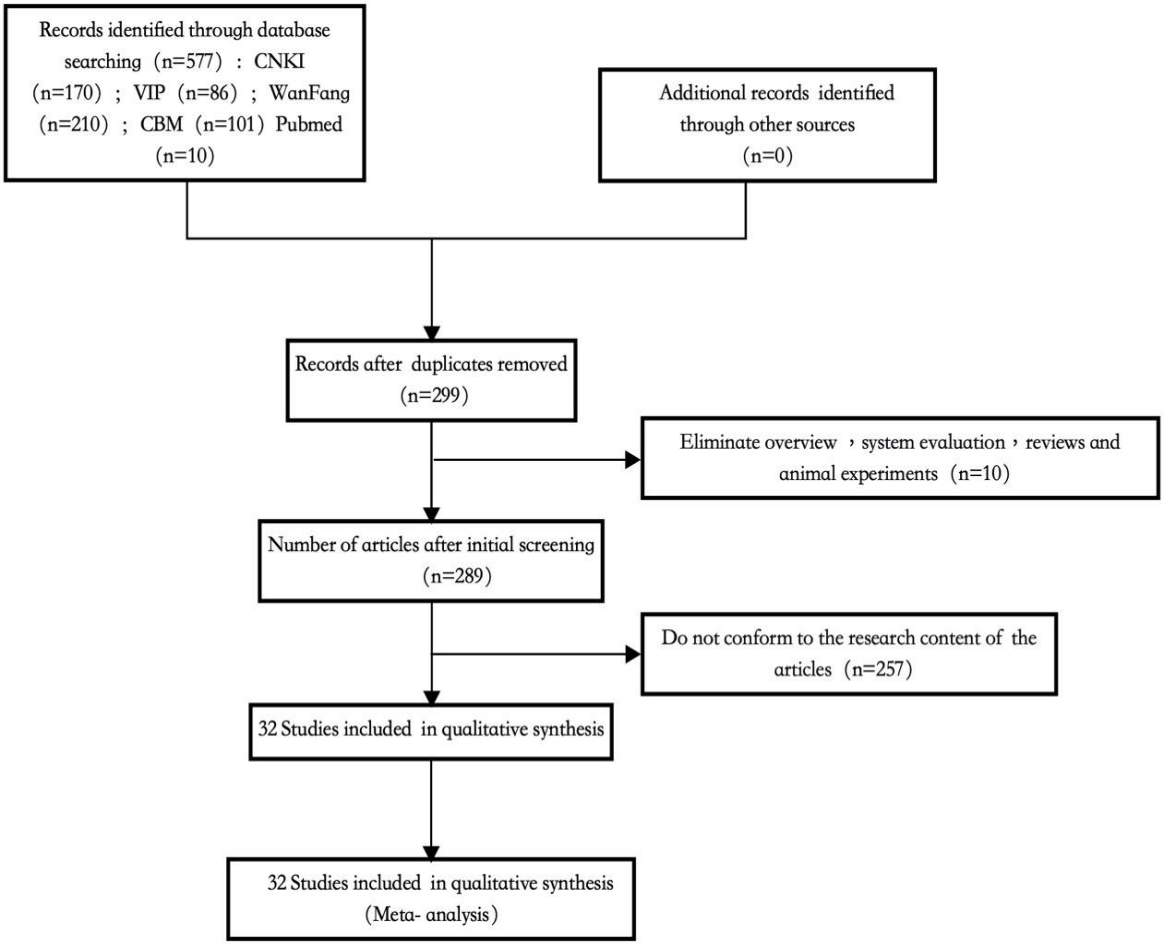

Figure 1: Flowchart of literature search and selection

3.2 Characteristics of Included Studies

A total of 32 randomized controlled trials were included, with a total sample of 2957 cases, including 1508 cases in the experimental group and 1449 cases in the control group. There are differences in intervention methods among the studies. The intervention methods of traditional Chinese medicine mainly include oral and external use of traditional Chinese medicine, acupuncture, cupping, etc., while the intervention methods of Western medicine mainly include oral medication, paravertebral nerve block and physical therapy. See Table 1 for the basic information of the included literatures.

Table 1: Characteristics of Studies Included in Meta-analysis

Study	Year	Sample capacity	Average age(years)	Intervention		Intervention cycle	Outcomes
				T	C		
YanHuan (YH)	2022	T=30 C=30	T=54±3.2 C=54±3.0	Traditional chinese medicine decoction+C	Western medicine therapy	2months	①②③
LanWeimin (LWM)	2015	T=62 C=63	60.06±5.01	Traditional chinese medicine decoction+C	Western medicine therapy	2weeks	①②③⑥
LvJunwei (LJW)	2007	T=98 C=40	T=58.1 C=59.0	Traditional chinese medicine decoction+C	Western medicine therapy	1week	①②⑥
WuXiao (WX)	2020	T=40 C=40	T=55.52±5.49 C=55.46±5.65	Traditional chinese medicine decoction+C	Western medicine therapy	4weeks	①②③④
ZhangXiaodan (ZXD)	2020	T=60 C=60	T=57.35±8.32 C=56.12±7.73	Traditional chinese medicine decoction+C	Western medicine therapy	4weeks	①②③
ChaJindong (CJD)	2020	T=31 C=31	T=58.26±5.62 C=59.84±4.39	Traditional chinese medicine decoction+C	Western medicine therapy	3weeks	①②③⑥
JiaoShuhong (JSH)	2020	T=67 C=67	T=46.85±8.43 C=47.02±8.49	Traditional chinese medicine decoction+C	Western medicine therapy	4weeks	①②③④⑥
JiangLiying (JLY)	2020	T=60 C=60	T=66.64±9.18 C=65.48±9.26	Traditional chinese medicine decoction+C	Western medicine therapy	4weeks	①②
WangAijun (WAJ)	2020	T=35 C=35	T=58.03±7.12 C=58.21±6.94	Traditional chinese medicine decoction+C	Western medicine therapy	4weeks	③
LuoHengchao (LHC)	2020	T=54 C=54	T=59.34±5.67 C=58.76±5.57	Traditional chinese medicine decoction+C	Western medicine therapy	4weeks	①②③④
LuoFeng (LF)	2020	T=30 C=30	T=55.9±11.2 C=58.4±12.5	Traditional chinese medicine decoction+C	Western medicine therapy	1month	①③
GeSuhua (GSH)	2008	T=52 C=46	T=65 C=67	Traditional chinese medicine decoction+C	Western medicine therapy	15days	①②⑥
XueTianping (XTP)	2017	T=58 C=62	T=49.2±6.5 C=48.2±6.5	Traditional chinese medicine decoction+C	Western medicine therapy	42days	①②⑥
DengAihua (DAH)	2021	T=30 C=30	T=64.94±2.46 C=64.28±2.56	Traditional chinese medicine decoction+C	Western medicine therapy	4weeks	①②⑥
ChenYumei (CYM)	2016	T=35 C=35	T=59.7±10.8 C=55.5±11.7	Traditional chinese medicine decoction+C	Western medicine therapy	4weeks	①③⑤⑥
GaoWenyou (GWY)	2014	T=60 C=60	36~81	Traditional chinese medicine decoction+C	Western medicine therapy	4weeks	①②
LiuZhuli (LZL)	2019	T=30 C=30	T=67.95±8.16 C=67.16±7.75	Traditional Chinese medicine plaster+acupuncture+C	Western medicine therapy	15days	③⑥
ZhangXiuguo (ZXG)	2007	T=50 C=50	T=69±2.1 C=70±3.2	Astragalus injection+C	Western medicine therapy	10days	⑤
DuanBaoxue (DBX)	2016	T=40 C=40	T=62.3±6.2 C=61.7±6.7	Traditional Chinese medicine capsule+C	Western medicine therapy	4weeks	①②③④
WangZiqiang (WZQ)	2020	T=60 C=60	T=59.64±13.15 C=61.05±12.76	Fire needle+C	Western medicine therapy	2weeks	①②③
XiaoWeimin (XWM)	2014	T=80 C=80	T=69.2 C=68.5	Acupuncture+External washing of traditional Chinese Medicine+C	Western medicine therapy	4weeks	①②③⑤
HuLiufeng (HLF)	2012	T=50 C=50	T=69±5.5 C=68±5.2	Traditional chinese medicine decoction+acupuncture+C	Western medicine therapy	10days	①②
GaoXiumei (GXM)	2023	T=30 C=30	T=60.4±9.4 C=63.0±9.0	Acupuncture+C	Western medicine therapy	4weeks	①④
ZhangJie(ZJ)	2016	T=50 C=50	T=57.65±6.86 C=55.12±7.33	Acupuncture+traditional chinese medicine decoction+C	Western medicine therapy	2weeks	①②③
LuHaisong (LHS)	2019	T=32 C=32	T=66.59±3.22 C=66.74±3.19	Traditional chinese medicine decoction+C	Western medicine therapy	4weeks	①②③
ZhangYusong (ZYS)	2018	T=35 C=35	T=69.7±13.4 C=73.6±11.9	Traditional chinese medicine decoction+C	Western medicine therapy	1week	①②③⑥
XuLi (XL)	2022	T=47 C=47	T=45.08±6.77 C=44.68±6.32	Puncture and cupping+Warm needling surround needling+C	Western medicine therapy	4weeks	①③⑥
CaoGuixi (CGX)	2013	T=40 C=40	T=68.0±7.6 C=70.0±5.5	Traditional chinese medicine decoction+Puncture and cupping+C	Western medicine therapy	4weeks	①②
WangHongjuan(WHJ)	2023	T=47 C=47	T=57.71±5.21 C=58.15±5.34	Electroacupuncture+Puncture and cupping+C	Western medicine therapy	20days	①②③④
HanBingyu (HBY)	2018	T=43 C=43	T=54.86±6.53 C=55.17±6.95	Traditional chinese medicine decoction+fire needle+C	Western medicine therapy	20days	④⑥
GuJinghui (GJH)	2023	T=30 C=30	T=62.14±2.36 C=62.29±2.42	Traditional chinese medicine decoction+C	Western medicine therapy	1month	①③
LiZongwu (LJW)	2021	T=41 C=42	T=61.26±5.01 C=61.64±4.52	Traditional chinese medicine decoction +External application of traditional Chinese Medicine+acupuncture +C	Western medicine therapy	1month	①④⑥

Note: T-Trial group; C-control group; ①- Total effective rate; ②- Cure rate; ③- VAS score; ④- PSQI score; ⑤- Pain disappearance time; ⑥- Adverse reactions;

3.3 Included in Research Quality Evaluation

Among the 32 articles in this study, 12 articles [12,15,16,19,20,23,26,27,31,32,41,43] clearly reported the specific random allocation method, and the rest only mentioned the word "random". All literatures did not report whether the blind method was applied to the subjects, researchers and outcome measurers. Two literatures [12,43] reported the case dropout, and the rest did not report the withdrawal and loss of follow-up cases. For the methodological evaluation of the included literatures, one reached a low risk of bias with high quality, and the other 31 reached a moderate risk of bias. See Figure 2 for the specific quality evaluation.

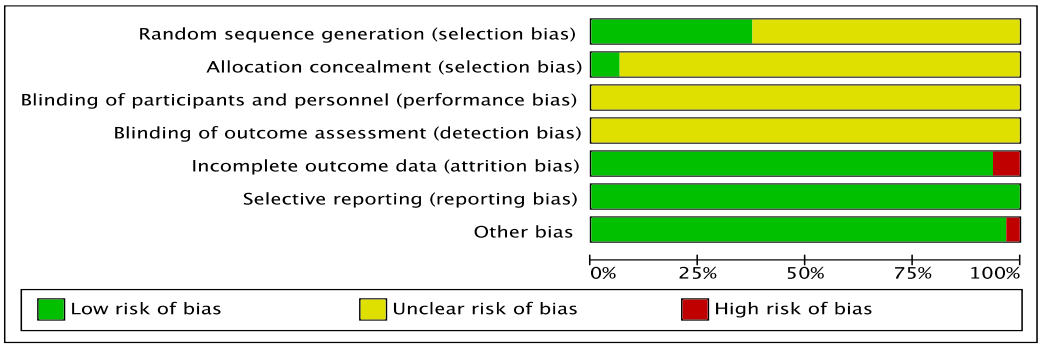

Figure 2: The Distribution of the Methodological Quality of Included Studies

3.4 Meta-analysis Results

3.4.1 Total effective rate

Twenty-eight studies [12-14,16-21,23-28,30-39,41-43] reported the total effective rate of the two groups. The heterogeneity test showed that the heterogeneity between the studies was small (P=0.67, I2=0%), and the fixed effect model was used for meta-analysis. The results showed that: the total effective rate of the integrative medicine group in the treatment of postherpetic neuralgia was significantly better than that of the western medicine group [RR=1.22,95% CI (1.18,1.26)], Z=11.77, P<0.00001], The difference was statistically significant, as shown in Figure 3.

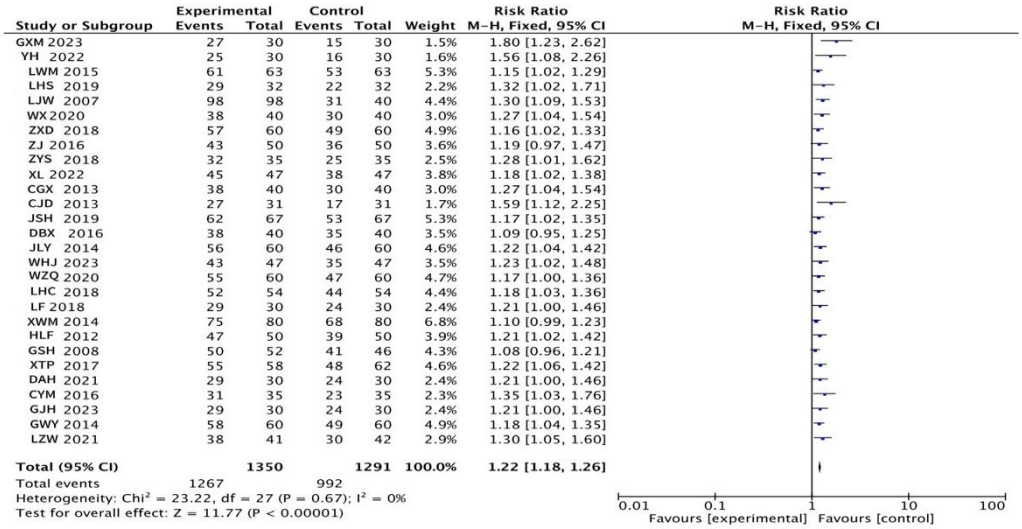

Figure 3: Meta-analysis of total effectiveness rate

3.4.2 recovery rate

Twenty-two studies [13,14,16-21,24-28,30-32,34-38,42] compared the cure rates of the two groups. The heterogeneity test showed that the heterogeneity between the two groups was small (P=0.47, I2=0%), and the fixed effect model was used for meta-analysis. The results showed that: the cure rate of the integrative medicine group in the treatment of postherpetic neuralgia was significantly better than that of the western medicine group [RR=1.58, 95%CI (1.42,1.75)], Z=8.53, P<0.000 01], The difference was statistically significant, as shown in

Figure 4.

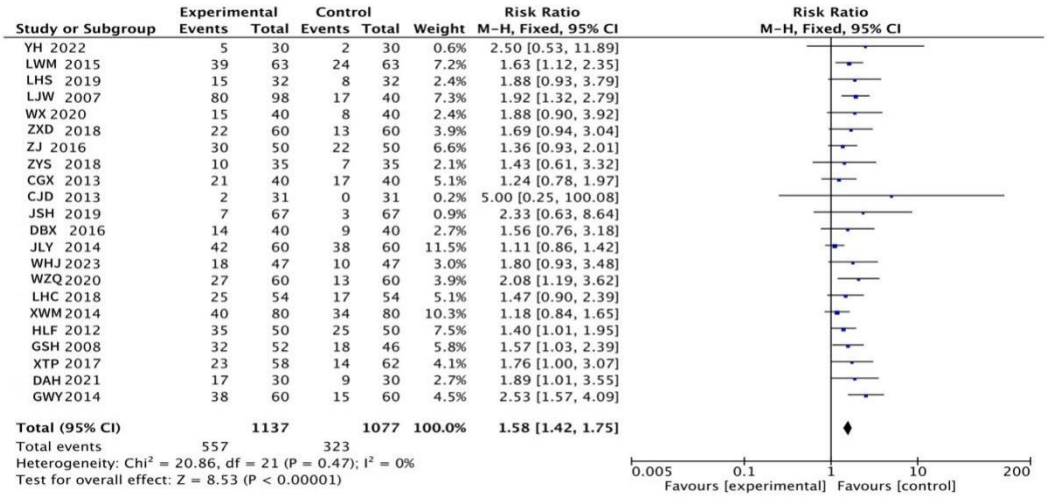

Figure 4: Meta-analysis of recovery rate

3.4.3 VAS score

Twenty studies [13-16,18-21,23,25-27,29-34,39,41] compared the VAS scores of the two groups. The heterogeneity test showed that the heterogeneity among the groups was statistically significant (P<0.00001, I2=95). After sensitivity analysis, the heterogeneity among the groups changed little, and the random effect model was used for meta-analysis. The results showed that: the combination of traditional Chinese and Western medicine group in the treatment of postherpetic neuralgia was significantly better than the simple western medicine group in reducing the VAS score [MD=-1.62, 95% CI (-1.90, -1.34), Z=11.35, P<0.00001], The difference was statistically significant. The subgroup analysis of VAS score according to different treatment methods of traditional Chinese medicine showed that internal therapy [MD=-1.67, 95%CI(-1.94, -1.40),Z=12.20,P<0.00001], External therapy [MD=-1.15, 95%CI(-1.54,-0.75), Z=5.73,P<0.00001] and internal therapy plus external therapy [MD=-2.53, 95%CI(-2.84,-2.21), Z=15.90, P<0.00001] showed statistically significant differences, suggesting that the combination of traditional Chinese and Western medicine with different TCM treatment methods in the treatment of postherpetic neuralgia is significantly better than western medicine alone in reducing the VAS score, as shown in Figure 5.

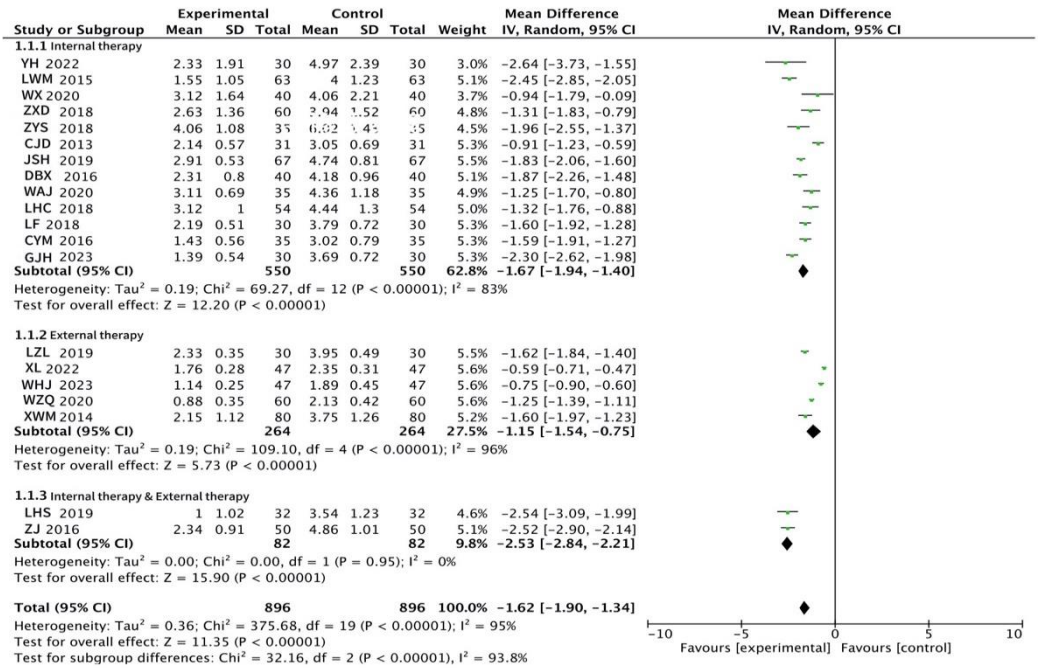

Figure 5: Subgroup-analysis of VAS scores

3.4.4 PSQI score

Eight studies [12,18,26,27,30,32,40,43] compared the PSQI scores of the two groups. The heterogeneity test showed that there was significant heterogeneity among the studies (P<0.00001, I2=98%), and the heterogeneity among the groups changed little after sensitivity analysis. The random effect model was used for meta-analysis. The results showed that: the treatment of postherpetic neuralgia in the integrative medicine group was significantly better than that in the western medicine group [MD=-2.90, 95% CI (-4.39, -1.41)], Z=3.82, P<0.0001], The difference was statistically significant. Subgroup analysis of PSQI score according to different treatment methods of traditional Chinese medicine showed that internal therapy [MD=-4.49, 95%CI(-6.44,-2.53), Z=4.50, P<0.00001]、External therapy [MD=-1.55, 95%CI(-1.70, -1.39), Z=19.54, P<0.00001] and internal therapy plus external therapy [MD=-1.29, 95%CI(-1.76,-0.82), Z=5.38, P<0.00001] showed statistically significant differences, suggesting that the combination of traditional Chinese and Western medicine with different TCM treatment methods in the treatment of postherpetic neuralgia is significantly better than western medicine alone in reducing PSQI score, as shown in Figure 6.

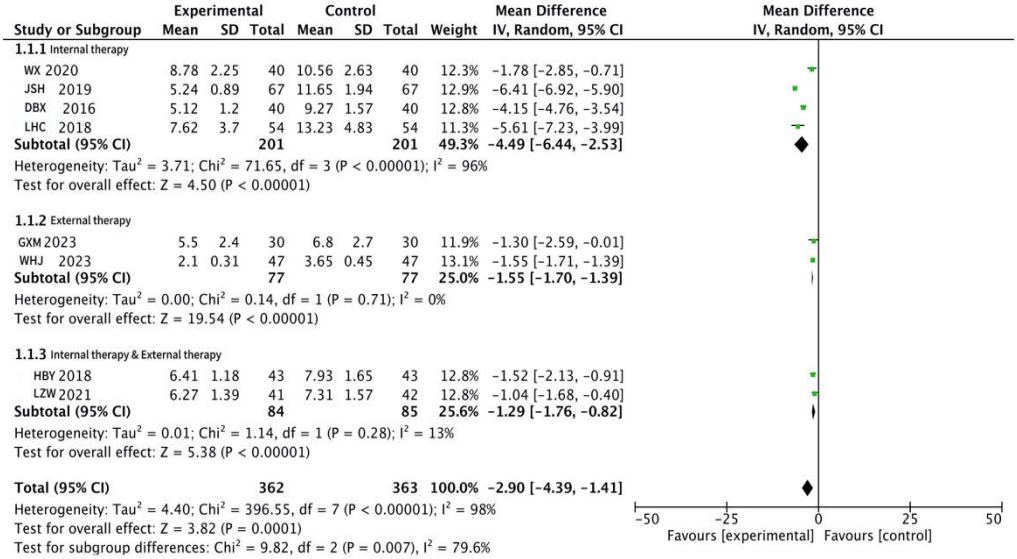

Figure 6: Subgroup -analysis of PSQI scores

3.4.5 Pain disappearance time

Three studies [22,34,39] compared the pain disappearance time of the two groups. The heterogeneity test showed that there was heterogeneity between the studies (P=0.01, I2=78%), so the random effect model was used for meta-analysis. The results showed that: the treatment of postherpetic neuralgia in the integrative medicine group was significantly better than that in the western medicine group [MD=-2.75, 95% CI(-4.26, -1.24)], Z=3.57, P=0.004], The difference was statistically significant, as shown in Figure 7.

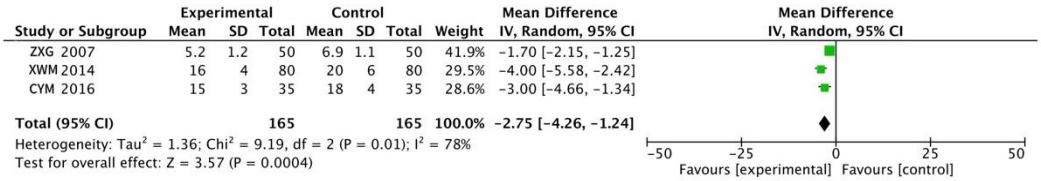

Figure 7: Meta-analysis of pain removal time

3.4.6 Adverse reactions

Thirteen studies [14,15,17 21,23,25,26,36-40,43] reporting adverse reactions in the two groups, of which 11 articles [14,15,21,23,25,26,37-40,43] reported the incidence of adverse reactions in the two groups. The heterogeneity test showed that the heterogeneity between studies was small (P=0.72, I2=0%), and the fixed effect model was used for meta-analysis. The results showed that: the integrated traditional Chinese and Western medicine group was better than the western medicine group in reducing the incidence of adverse reactions

[RR=0.77, 95%CI (0.60,0.99), Z=2.01, P=0.04], and the difference was statistically significant, as shown in Figure 8.

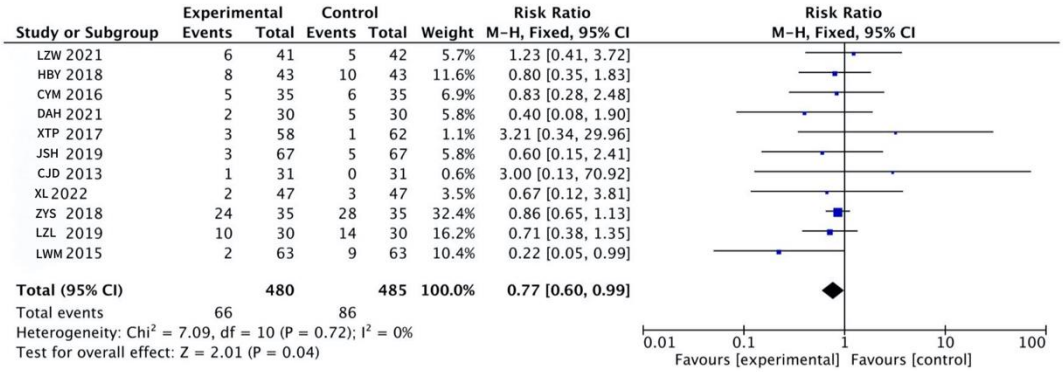

Figure 8: Meta-analysis of adverse reaction rate

3.5 Publication Bias Test

The total effective rate of 28 articles was tested for publication bias. The funnel chart was drawn based on the RR value and its inverse value collected from 28 studies. The results showed that the distribution of each research point was asymmetric on the left and right, and the bias was concentrated on the left, suggesting that there was a certain degree of publication bias, as shown in Figure 9.

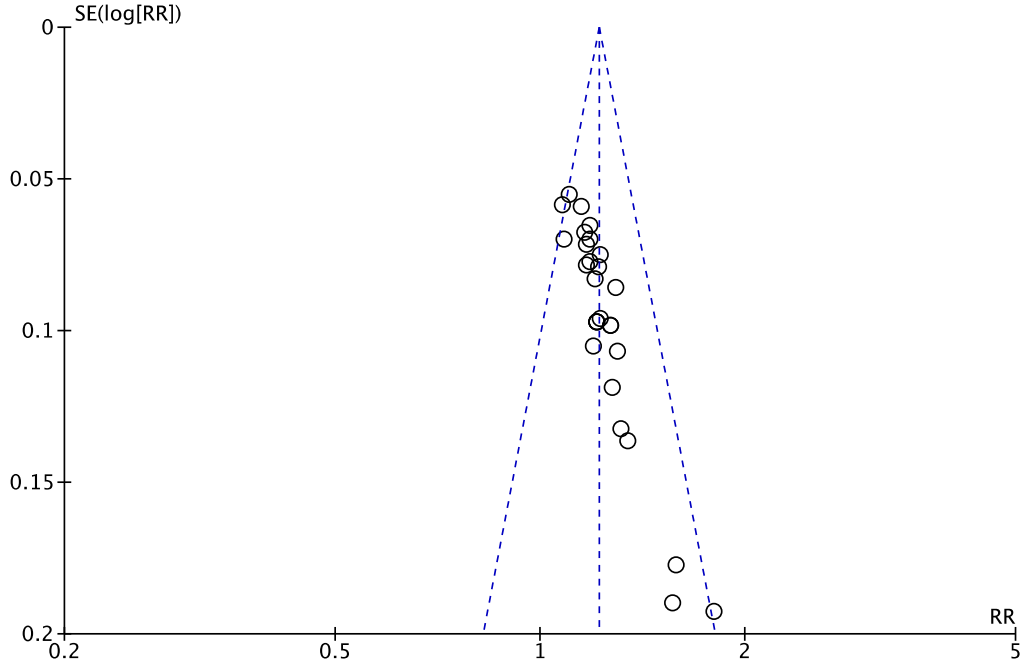

Figure 9: funnel plot of total effective publication bias

4. Discussion

The pathogenesis of PHN has not been fully elucidated to date. Research suggests that its onset may be related to the latency of varicella-zoster virus in trigeminal and dorsal root ganglia after initial infection [44]. When the body's immune function is low, the virus latent in the ganglia is activated, replicates extensively, and spreads to the peripheral and central nervous systems [45], causing inflammation, hemorrhage, necrosis, and other pathological changes in the affected nerves, thereby inducing pain. The nature of the pain is diverse, mainly including burning sensation, electric shock sensation, knife cutting sensation, and needle prick sensation [46], which seriously affects the quality of life of patients. Currently, Western medicine treatment mainly includes calcium channel modulators, tricyclic antidepressants, opioids, nerve block, spinal cord electrical stimulation, etc. [47]. A study by An Yuanyuan et al. [48] showed that the clinical use of a single drug alone cannot achieve the

expected effect, and the side effects are significant. To reduce the adverse reactions caused by a single large dose of drug, combination therapy is often required. These drugs can produce therapeutic effects while also causing adverse effects on the body. Research [45, 49] shows that calcium channel modulators can cause dizziness, somnolence, ataxia, peripheral edema, etc.; tricyclic antidepressants are prone to cause cardiovascular diseases and mental dysfunction; opioids have obvious effects in the short term, but are prone to drug tolerance and addiction. Especially in elderly patients or patients with chronic pain who have low immunity, long-term systemic medication not only has poor efficacy but also poses a high risk of medication use. Nerve block and spinal cord electrical stimulation have good analgesic effects, but they are traumatic therapies with high technical requirements and expensive costs.

Postherpetic neuralgia (PHN) belongs to the categories of ‘She Dan Ton’ and ‘She Dan Yu Hou Tong’ in traditional Chinese medicine (TCM), which is the main manifestation of PHN in the late stage of the disease. The core pathogenesis at this stage is qi stagnation and blood stasis, so the TCM treatment is based on the method of promoting blood circulation to remove blood stasis, and the treatment is administered according to the principle of "individualization" based on syndrome differentiation. The treatment methods mainly include oral administration of traditional Chinese medicine, fumigation and washing with traditional Chinese medicine, external application of traditional Chinese medicine, acupuncture, pricking and cupping, and other characteristic therapies. Modern clinical studies have shown that the main mechanism of action of oral and external use of blood-activating and stasis-removing drugs for the treatment of PHN is to improve local blood circulation, reduce the permeability of capillaries, and reduce the release of inflammatory mediators, thus achieving anti-inflammatory and analgesic effects [43]; acupuncture can regulate the release of neurotransmitter related to nerve endings and downregulate the level of inflammatory factors, thus achieving analgesic effects [50]; pricking and cupping can remove stasis and promote new growth, accelerate blood circulation, and regulate metabolic functions [51]; Xin Ling et al. [52] have demonstrated that the above-mentioned TCM therapies are convenient, effective, and have few side effects, which are accepted by the majority of patients. Currently, there is a significant increase in randomized controlled trials of integrated traditional Chinese and Western medicine for the treatment of PHN. Whether it has clinical efficacy advantages compared with pure Western medicine treatment needs to be proven by large-sample, multi-center studies. Therefore, it is necessary to further evaluate the clinical efficacy and safety of integrated traditional Chinese and Western medicine for the treatment of PHN.

This meta-analysis included 32 randomized controlled studies with a total sample size of 2,957 cases, all of which met the diagnostic criteria for PHN. The results showed that: (1) efficacy: compared with western medicine alone, integrated traditional Chinese and western medicine therapy can significantly improve the total effective rate and recovery rate, and shorten the time for pain disappearance in patients; after subgroup analysis of VAS assessment and PSQI scoring outcome indicators according to different traditional Chinese medicine treatment methods, it was shown that integrated traditional Chinese and western medicine therapy can better alleviate pain and improve sleep quality in patients, and is not limited by traditional Chinese medicine treatment methods; (2) safety: 13 articles reported adverse reactions, and the integrated traditional Chinese and western medicine treatment group had fewer adverse reactions than the western medicine treatment group alone, commonly including nausea, vomiting, dizziness, somnolence, anorexia, abdominal pain, diarrhea, etc. Most adverse reactions alleviated spontaneously or disappeared after drug withdrawal, and some adverse reactions alleviated after symptomatic treatment, with no reports of serious adverse reactions. The results showed that integrated traditional Chinese and western medicine therapy significantly reduced the incidence of adverse reactions and was safer.

This study also has certain limitations: (1) The quality of the included studies is generally low. According to the Cochrane Handbook for Systematic Reviews, only one study met the criteria for low risk of bias, while the remaining 31 studies were at moderate risk of bias, which may affect the reliability of the results. (2) The diagnostic criteria among the study groups are different, and the treatment methods of traditional Chinese medicine in the experimental group and Western medicine in the control group are also different, which increases the heterogeneity of the meta-analysis results to a certain extent. (3) The sample size of some subgroups is relatively small, which may affect the value of the combined results. (4) The funnel plot shows that there is publication bias in the included studies, which may be related to studies with insignificant results that have not been published or studies with low quality and small samples.

In conclusion, based on current evidence, the clinical efficacy of integrated traditional Chinese and Western medicine in treating postherpetic neuralgia is significant. It can effectively alleviate pain, improve sleep, and enhance the quality of life of patients, with minimal side effects and high safety. It is worthy of further clinical research and promotion. However, due to the generally low quality of the included studies and the issue of

publication bias, more carefully planned, strictly implemented, complete, high-quality, and multicenter randomized controlled trials are needed in the future to verify the efficacy and safety of integrated traditional Chinese and Western medicine in treating postherpetic neuralgia and provide more scientific evidence-based support for clinical practice.

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