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Clinical Application of Traditional Chinese Medicine Nursing Care in Cardiovascular Patients

ABSTRACT

Background: This study aimed to probe the clinical effect of traditional Chinese medicine (TCM) nursing care in cardiovascular patients.

Methods: A total of 120 patients with cardiovascular disease were randomized into a control group (n = 60) as well as a research group (n = 60). Patients in the control group received routine nursing care. Patients in the research group accepted TCM nursing care. The Hamilton Depression Scale, Hamilton Anxiety Scale, and SF-36 scores, sleep quality, occurrence of complications, as well as patients' satisfaction in both groups were compared.

Results: Hamilton Depression Scale, Hamilton Anxiety Scale, and Short Form-36 Health Survey (SF-36) scores of both groups showed no significance before nursing care ($P = .907$ and $P = .962$). Hamilton Anxiety Scale and HAMD scores of the research group were lower relative to the control group after nursing care ($P < .001$). SF-36 scores in the research group compared to the control group were elevated after nursing care ($P = .000$). Total sleep quality scores in the research group were lower relative to the control group ($P < .001$). The incidence of complications in the research group was lessened relative to the control group ($P = .013$). The patients' satisfaction in the research group was elevated relative to the control group ($P = .003$).

Conclusion: The use of TCM nursing care in patients with cardiovascular diseases can significantly relieve patients' negative emotions, improve patients' quality of life as well as sleep quality, reduce the incidence of complications, and have certain clinical application value.

Keywords: Cardiovascular patients, quality of life, satisfaction, traditional Chinese medicine, nursing care

ORIGINAL INVESTIGATION

INTRODUCTION

Cardiovascular disease is a group of diseases with a high incidence, which can lead to death if not handled promptly or appropriately.[1] According to the latest World Health Organization global health survey, about 120 million people worldwide suffer from cardiovascular disease, accounting for 1.5% of the global population. There are about 8 million new cardiovascular disease cases every year, of which men account for 70%.[2] Statistics have shown that there are 330 million patients with cardiovascular disease in China today, and the incidence of cardiovascular disease in China is in a continuous increasing state.[3] The main clinical manifestations of cardiovascular disease are hypertension, coronary heart disease, angina pectoris, heart disease, as well as acute myocardial infarction, and the etiology is more complex than other diseases.[4] However, because cardiovascular diseases are mostly chronic diseases, difficult to cure, and can involve other target organs, disease treatment and rehabilitation have caused a serious burden on society, seriously affecting the quality of life of patients and family harmony.[5] Clinical nursing interventions for patients with cardiovascular diseases have become a common means, but with the increase of nursing needs, conventional nursing means cannot meet the needs of patients.[6]

Traditional Chinese medicine (TCM) believes that cardiovascular disease belongs to "palpitation," "chest stuffiness and pains," "depression disease," and other

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categories. It is believed that the etiology and pathogenesis of cardiovascular diseases mainly lie in insufficient qi and blood.[7] This kind of disease is characterized by rapid and complex changes and is prone to relapse.[8] Traditional Chinese medicine nursing care is a nursing work carried out under the guidance of TCM theory, mainly through the means of "looking, smelling, asking and cutting" of TCM to know the development of patients' conditions and take corresponding nursing interventions according to the patient's condition.[9] As reported previously, TCM nursing care can improve epigastric pain, enhance quality of life, and increase the satisfaction of patients with epigastric pain.[10] Besides, it has been pointed out that TCM-based rehabilitation nursing combined with scalp acupuncture can improve the negative emotions of patients with stroke.[11] In addition, nursing intervention under the guidance of the basic theory of TCM can promote the quality of life of patients with cardiovascular disease, reduce clinical symptoms, reduce recurrence, and reduce complications.[12]

Therefore, this study aimed to probe the clinical effect of TCM nursing care in cardiovascular patients, in order to promote the quality of life of patients.

METHODS

General Data

A total of 120 treated patients with cardiovascular disease were randomly separated into a control group (n = 60) as well as a research group (n = 60). A block of 4 was utilized for the random assignment. Every subject in 1 block received letters A, B, and C as well as D. AB, AC, AD, BC, BD, and DC were considered as possible research group assignments. Subsequently, for the research group assignment, a number from 1 to 6 was randomly picked, such that if you picked number 5 or number 2 would belong to the control group. In the control group, 40 cases of male and 20 cases of females were included, aged from 50 to 76 years old, with a mean age of 62.82 ± 10.65 years old. There were 12 cases of heart failure, 8 cases of myocardial infarction, 12 cases of angina pectoris, 10 cases of hypertensive heart disease, 10 cases of heart failure in combination with ischemic cardiomyopathy, and 8 cases of heart failure in combination with dilated cardiomyopathy. In the research group, 38 males and 22 females, aged from 51 to 77 years old, with a mean age of 62.96 ± 10.59 years old. There were 13 cases of heart failure, 10 cases of myocardial infarction, 10 cases of angina pectoris, 11 cases of hypertensive heart disease, 8 cases of heart failure in combination with ischemic cardiomyopathy, and 8 cases of heart failure in combination with dilated cardiomyopathy. There was no difference in general data between both groups ($P > .05$, Table 1), implying comparable.

Inclusion Criteria

(1) Met the diagnostic criteria for cardiovascular diseases. (2) Complied with the principle of informed consent. (3) Patients had no prior experience with TCM.

Exclusion Criteria

(1) Patients with severe brain, liver, and kidney diseases. (2) Patients with mental disease. (3) Patients with communication disorders.

Treatment

Patients in the control group received routine nursing care. Patients in the research group taken TCM nursing, including daily living nursing care, psychological nursing care, diet nursing care, and traditional Chinese medical massage. The specific nursing measures were as follows: (1) Daily living care: due to the large differences in the physical constitution of the elderly, different patients had different levels of physical function. In daily life, different TCM nursing care should be carried out for different patients. For patients with weak heart pulse, it is important to pay attention to avoiding wind cold, as far as possible to take warm measures to ease the cold condition of the limbs. In addition, it is important to pay extra attention to indoor temperature control (keep the indoor temperature at 20-21 degrees Celsius) in the ward.[13] For patients with heart and kidney Qi Yin deficiency, it is important to persuade them to maintain good living habits, pay attention to rest at ordinary times, and carry out appropriate activities such as walking and Tai Chi (30 min/day). (2) Psychological care: due to cardiovascular patients were mostly elderly, under the influence of long-term chronic disease, most patients would more or less appear some anxiety, irritability, and other mental illness. For such patients, the TCM heart-nourishing method was carried out to regulate patients' psychological emotions. Patients could practice deep breathing exercises every day, such as the "4-7-8" breathing method (breathing in for 4 seconds, holding for 7 seconds, and slowly exhaling for 8 seconds), which helped to relax nerves, reduce heart rate, and relieve anxiety. Besides, nursing staff should pay special attention to, daily conversation should pay attention to wording, avoid causing adverse emotional reactions in patients. Family members could play music (10～15 min/times, 2～3 times/day) to relax the patient's tension, so that the patient could build up confidence to overcome the disease. (3) Diet care: for cardiovascular patients, dietary attention should be paid to the intake of food suitable for the diet, light diet was the first, avoid salty, greasy, spicy, and other stimulating food. In addition, it was necessary to quit smoking and drinking, and developing a good diet was of great significance for patients with chronic diseases such as cardiovascular disease. (4)

HIGHLIGHTS

- After traditional Chinese medicine (TCM) nursing care, Hamilton Anxiety Scale, Hamilton Depression Scale scores, sleep quality scores, and complication rate of patients with cardiovascular diseases were significantly reduced.
- After TCM nursing care, SF-36 score and patient satisfaction of patients with cardiovascular disease were significantly improved.
- The application of TCM nursing care in cardiovascular diseases has significantly relieved patients' negative emotions, improved patients' quality of life and sleep quality, and reduced complication occurrence.

Table 1. General Data of Patients in Both Groups (x ± s)/(n, %)

General Data	Control Group (n = 60)	Research Group (n = 60)	*P*
Gender (male/female)	40/20	38/22	.701
Average age (years)	62.82 ± 10.65	62.96 ± 10.59	.942
Heart failure	12	13	.949
Myocardial infarction	8	10	
Angina pectoris	12	10	
Types of Hypertensive heart disease cardiovascular disease	10	11	
Heart failure in combination with ischemic cardiomyopathy	10	8	
Heart failure in combination with dilated cardiomyopathy	8	9	.793

t test or χ^2 test was used for statistical analysis.

Traditional Chinese medical massage: for cardiovascular patients, caregivers or family members could perform traditional Chinese medical massage, including whole body massage and foot massage, to improve blood circulation by stimulating acupuncture points. Each massage lasted for 30 minutes, once a day. In addition, massage techniques should be from light to heavy, and prevent excessive force, cause unnecessary cardiovascular reactions, and accelerate the development of the disease.

Observation Indexes

1. Hamilton Depression Scale (HAMD) and Hamilton Anxiety Scale (HAMA) scores: HAMD scale was implemented to evaluate the psychological depression of patients.[14] Hamilton Anxiety Scale was adopted to assess the anxiety of the patients.[15] A score of >29 indicated severe anxiety and depression, a score of 21-29 indicated obvious anxiety and depression symptoms, and a score of 14-21 indicated anxiety and depression. A score of 7-14 indicated that the patient may have anxiety and depression, but it was not serious, and a score of <7 indicated that the patient's life was good. Higher scores represented more serious depression and anxiety in patients. The HAMA and the HAMD have good internal consistency, Cronbach's α can reach more than 0.8, and both of them can show good reliability and validity.[16]
2. SF-36 scores: The quality of life scale (SF-36) was implemented to evaluate the quality of life of patients in both groups.[17] The total score of SF-36 scale was 100 points, and the lower score represented the worse quality of life. SF-36 has good reliability and validity, with a Cronbach's α coefficient more than 0.8.[18]
3. The Pittsburgh Sleep Quality Index (PSQI) was implemented to assess the sleep quality of patients in both groups,[19] which contained sleep quality, sleep duration, sleep efficiency, sleep disorders, along with daytime function, with the highest score of 3 for each item, 0 was normal sleep, and 3 was poor sleep quality. The PSQI has good reliability and validity, with a Cronbach's α coefficient of 0.68.[20]
4. Occurrence of complications: Complications of venous embolism, hypotension, and arrhythmia were statistically compared between the 2 groups.
5. The patient's satisfaction with the nursing measures was counted, and satisfaction meant that the patient was in a good mood, could actively cooperate with treatment, clinical symptoms were improved, and all vital signs were normal. Basic satisfaction was that the patient's mood was average, willing to cooperate with treatment, clinical symptoms were partially improved, and vital signs were stable. Dissatisfaction meant that the patient was emotionally unstable, had poor compliance, no improvement in clinical symptoms, and had large changes was vital signs.

Statistical Analysis

SPSS 20.0 statistical software was taken for data analysis and processing. The measurement data were described as mean ± SD. Independent sample *t* test was used for comparing 2 group means, paired t test was used for pre-post measurements, Mann–Whitney *U* test was used for 2 group comparisons for variables that were not normally distributed, and Wilcoxon t test was used for pre-post measurements. The statistical data were expressed as (n, %) and compared with χ^2 test. $P < .05$ was significant.

Statement

No artificial intelligence (AI)-assisted technologies were used in the production of the submitted work.

RESULTS

Hamilton Depression Scale and Hamilton Anxiety Scale Scores in Both Groups

As shown in Figure 1, before nursing care, HAMD and HAMA scores in the control group were (23.26 ± 2.45 and 22.87 ± 2.29) points, and those in the research group were (23.31 ± 2.25 and 22.89 ± 2.31) points. Hamilton Depression Scale together with HAMA scores of both groups showed no significance before nursing care ($P = .907$ and $P = .962$). After nursing care, HAMD and HAMA scores in the control group were (18.73 ± 1.89 and 17.27 ± 1.73) points, and those in the research group were (14.23 ± 1.48 and 13.25 ± 1.36) points. Hamilton Anxiety Scale as well as HAMD scores decreased in both groups following nursing care ($P < .001$), and those in research group showed a reduction relative to control group ($P < .001$). All these results suggested that TCM nursing care could relieve the negative emotions of patients with cardiovascular diseases.

SF-36 Score in Both Groups

As shown in Figure 2, before nursing care, SF-36 scores in the control group were (62.43 ± 6.31) points, and those in the research group were (62.42 ± 6.28) points. SF-36 scores of both groups showed no significance before nursing care

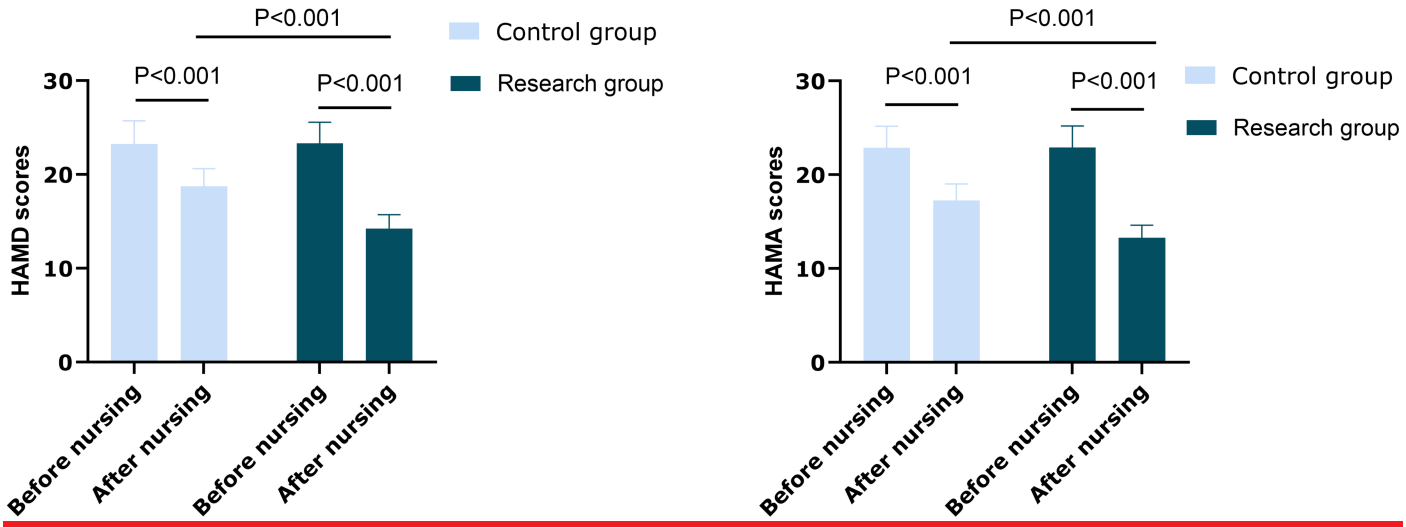

Figure 1. Hamilton Depression Scale and Hamilton Anxiety Scale scores were used to assess the depression and anxiety of patients in both groups.

($P = .993$). After nursing care, SF-36 scores in the control group were (67.75 ± 6.79) points, and those in the research group were (72.38 ± 7.31) points. SF-36 scores in both groups improved following nursing care ($P < .001$), and those in research group became elevated relative to control group ($P = .000$). All these results suggested that TCM nursing care could improve the quality of life of patients with cardiovascular diseases.

Sleep Quality of Patients in Both Groups

After nursing care, the scores of all sleep quality parameters in the control group were (1.65 ± 0.16, 0.92 ± 0.09, 1.72 ± 0.18, 0.92 ± 0.09, and 1.83 ± 0.18), and those in the research group were (1.41 ± 0.15, 0.68 ± 0.06, 1.43 ± 0.15, 0.52 ± 0.05, and 1.33 ± 0.13). Compared with the control group, the scores of all sleep quality parameters were decreased in the research group ($P < .001$, Figure 3). All these results suggested that TCM nursing care could improve the sleep quality of patients with cardiovascular diseases.

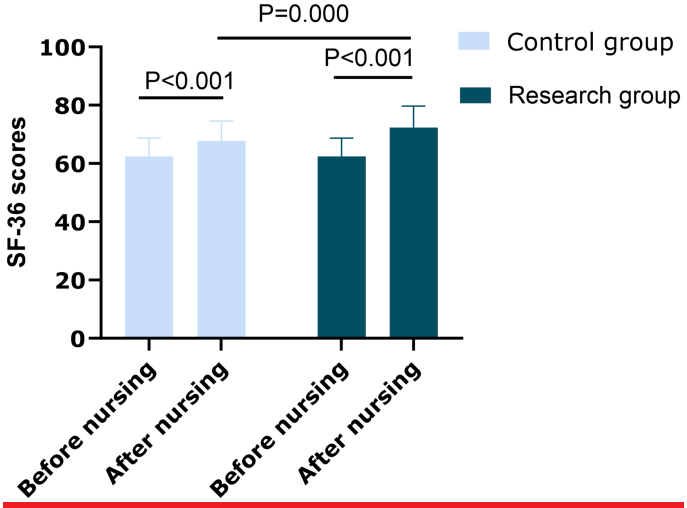

Figure 2. SF-36 scores were used to assess the quality of life of patients in both groups.

Complications in Both Groups

The incidence of complications in the control group was (12/60, 20.00%), and the incidence of complications in the research group was (3/60, 5.00%). Compared to the control group, the incidence of complications in the research group was lower ($P = .013$, Table 2). All these results suggested that TCM nursing care could reduce the incidence of complications in patients with cardiovascular diseases.

Patient Satisfaction in Both Groups

The satisfaction rate in the control group was (52/60, 86.67%), and the incidence of complications in the research group was (60/60, 100.00%). Compared to the control group, the satisfaction rate in the research group was higher ($P = .003$, Table 3). All these results suggested that TCM nursing care could increase the nursing satisfaction of patients with cardiovascular diseases.

DISCUSSION

Cardiovascular diseases mostly occur in middle-aged and elderly people, with the characteristics of being long-term and multiple. Cardiovascular diseases have existed for a long time, the chance of radical treatment is very small, and most patients have lifelong illnesses, which eventually lead to death.[21] The treatments of cardiovascular diseases often involve controlling the condition and improving the quality of life.[22] In addition, due to the wide variety of cardiovascular diseases, changing conditions, and complex etiology, finding the root cause is still a big problem troubling clinicians.[23] With the development of the economy and the innovation of medical technology, the diagnosis and treatment of cardiovascular diseases have been developing rapidly.[24] The development of interventional therapy enables a large number of patients to receive early treatment, alleviate the progress of the disease, and extend the life of patients.[25] In terms of clinical nursing, effective targeted nursing measures combined with active medical treatment can improve the therapeutic effect of cardiovascular diseases and improve the physical and mental health of patients.[26] Studies have found that

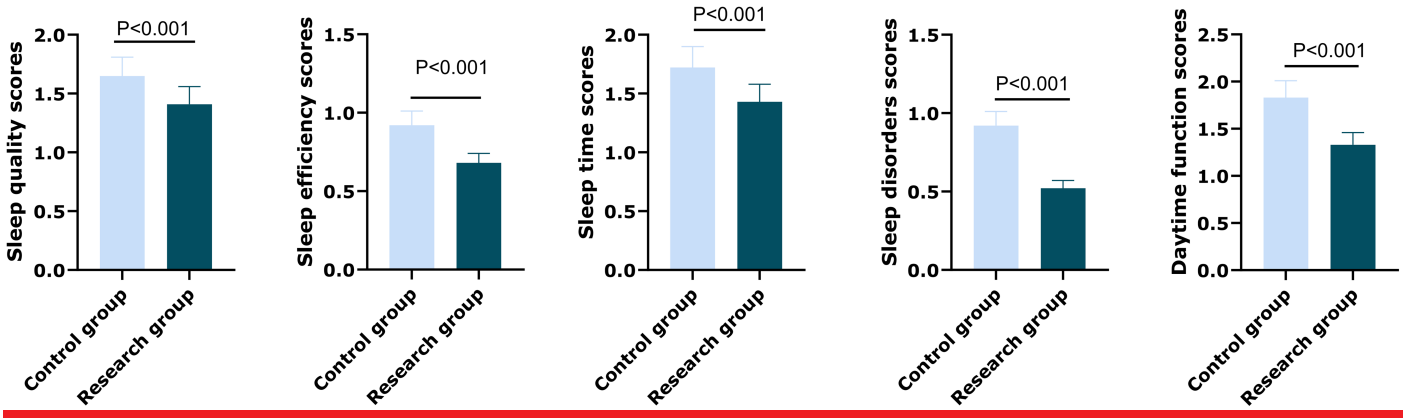

Figure 3. Pittsburgh Sleep Quality Index scores were used to assess patients' sleep quality in both groups.

targeted TCM nursing care under the guidance of formal TCM theories can promote patients' quality of life and prognosis.[27]

The long-term characteristics of cardiovascular diseases will affect the psychological status of patients and affect the recovery of patients' conditions.[28] The results of this study showed that anxiety and depression symptoms were significantly relieved in patients with cardiovascular diseases after receiving TCM nursing, under existing publications.[29] The reason may be that in the process of nursing, the use of the TCM heart-nourishing method to intervene in patients, which could timely adjust the mood of patients, so that patients established plain life values, maintained a positive and healthy state of mind, to achieve the purpose of regulating the psychological mood of patients.

It has been reported that TCM nursing care can improve the quality of life of patients with bladder cancer.[30] Consistently, in this study, after TCM nursing, the SF-36 scores of patients with cardiovascular diseases were improved, indicating that TCM nursing care could improve the quality of life of patients with cardiovascular diseases.

Moreover, patients with cardiovascular diseases may have poor sleep quality when their symptoms are severe.[31] As reported previously, TCM nursing care can elevate the sleep quality of patients with stroke.[11] In line with this view, the sleep quality of patients with cardiovascular diseases receiving TCM nursing care was better, indicating that clinical nursing care by guiding acupoint massage, conditioning qi, and blood and other TCM nursing care to patients led to significant improvement of their conditions and physical states, enhancing the sleep quality of patients. Similarly, it has been reported that acupoint massage can promote the sleep quality of haemodialysis patients.[32]

Additionally, after TCM nursing care, the incidence of complications was reduced and patients' satisfaction was promoted, which suggested that TCM nursing care could improve the physical function status of patients with cardiovascular diseases and reduce the occurrence of complications, in line with former studies.[33]

Study Limitations

The main limitation of the present study is the relatively small sample size. Further studies with large samples are recommended to confirm the findings. Besides, the applicability of TCM nursing care will be assessed in different age groups or cultural contexts in the future.

Table 2. Complications in Both Groups (n, %)

Groups	n	Venous Embolism	Hypotension	Arrhythmia	Total Incidence Rate (%)
Control group	60	3	3	6	12 (20.00%)
Research group	60	1	1	1	3 (5.00%)
χ^2					6.171
P					.013

χ^2 test was used for statistical analysis.

Table 3. Patients' Satisfaction in Both Groups (n, %)

Groups	n	Satisfaction	Basic Satisfaction	Dissatisfaction	Satisfaction Rate (%)
Control group	60	40	12	8	52 (86.67%)
Research group	60	53	7	0	60 (100.00%)
χ^2					8.571
P					.003

χ^2 test was used for statistical analysis.

CONCLUSION

The use of TCM nursing care to intervene in patients with cardiovascular diseases can significantly relieve patients' negative emotions, improve patients' quality of life as well as sleep quality, reduce the incidence of complications. This study can provide clinical reference for the TCM nursing care of patients with cardiovascular diseases. In addition, the combination of TCM and western medicine nursing care is the trend of the times. The combination of TCM and western medicine nursing care for cardiovascular and cerebrovascular diseases is not a simple combination of TCM and western medicine nursing, but an optimal combination of TCM and western medicine nursing care. On the basis of western medicine nursing, according to the basic theoretical principles of TCM such as syndrome differentiation and care, the comprehensive nursing method of TCM is applied to improve the clinical symptoms of cardiovascular patients, improve their quality of life, and reduce the incidence of complications. The combination of TCM and Western medicine nursing care can make up for the deficiency of a single nursing method and provide safer and more long-term nursing measures for patients with cardiovascular diseases.

Availability of Data and Materials: The data that support the findings of this study are available from the corresponding author, upon reasonable request.

Ethics Committee Approval: This study was approved by the Ethics Committee of Zhangjiagang Hospital of Traditional Chinese Medicine (Decision date: February 2021; Decision number: 2021L-0182A). All procedures were performed in accordance with the ethical standards of the Institutional Review Board, The Declaration of Helsinki, and its later amendments or comparable ethical standards.

Informed Consent: Written informed consent was provided by all participants prior to the commencement of the study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – Y.H.; Design – Y.H.; Supervision – D.X., Y.L., P.X.; Resource – D.X., Y.L., P.X.; Materials – D.X., Y.L., P.X.; Data Collection and/or Processing – L.Y., J.Z.; Analysis and/or Interpretation – D.X., Y.L., P.X.; Literature Search – Y.H.; Writing – D.X., Y.L.; Critical Reviews – D.X., Y.L., P.X.

Declaration of Interests: The authors have no conflicts of interest to declare.

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