Multicenter clinical efficacy observation of integrated Traditional Chinese Medicine-Western Medicine treatment in acute onset period of pulmonary heart disease

Lu Yun, Jin Wei, Zhang Hong, Zhang Xiaoyun

Abstract

OBJECTIVE: To evaluate the efficacy of integrated Traditional Chinese Medicine-Western Medicine (TCM-WM) in the treatment of acute onset pulmonary heart disease (PHD).

METHODS: A total of 240 patients met the inclusion criteria and were enrolled. These inpatients were divided into group A (treatment group) and B (control group) in order of admission according to the principles of randomization and control. The research was performed simultaneously in three hospitals. Two groups were given basic treatment that included: controlled oxygen therapy, active and effective anti-infection, maintaining airway patency, correcting O₂ deficiency and CO₂ retention, correcting acid-base imbalance and electrolyte disturbance, reducing pulmonary hypertension and treating right heart failure, nutritional support and treatment of complications. Group A was given basic treatment and integrated Traditional Chinese Medicine (TCM) differentiating therapy; group B was given basic therapy and a placebo that was similar in appearance and taste to TCM medicinal broth of pharmaceutical preparations, provided by Yibin Pharmaceutical Company (Yibin, China, Wuliangye Group).

RESULTS: The mortality in the treatment group decreased by 4.98% compared with the control group. The treatment group reported improved ventilation, corrected hypoxemia, improved nutritional status and promoted digestive functions. It also significantly improved the patient’s self-life skills, improved the patient’s quality of life and could shorten the length of hospital stay.

CONCLUSION: Comprehensive integrated TCM-WM treatment showed good clinical efficacy toward the acute onset period of PHD patients.

INTRODUCTION

Chronic pulmonary heart disease (CPHD) is caused by the persistent presence of pulmonary hypertension, which can result in damage to cardiac function. When the disease progresses to a decompensated state, the situation is normally dangerous, and without timely intervention, death may result. The average prevalence rate is 0.46%, and the hospital mortality rate is 12.5%-14.5%. Chronic obstructive pulmonary disease is...
closely related to PHD. The incidence of PHD is increasing, thereby seriously affecting the quality of life for patients.18-19 In recent years, researchers have carried out studies on the complications of PHD from a pathophysiological aspect.18-17 Extensive studies have been performed to reduce pulmonary artery pressure and improve respiratory failure and cardiopulmonary functions. However, an effective approach to prevent heart and lung function failure is still not available, and the rates of mortality and mutilation remain high, placing a heavy burden not only on patients and their families but also on society.18,20 An acute exacerbation of PHD is mostly induced by acute pulmonary infection, which is normally accompanied by respiratory failure and cardiac dysfunction. Complications such as acid-base imbalance and electrolyte disturbance, pulmonary encephalopathy, gastrointestinal bleeding, disseminated or diffuse intravascular coagulation (DIC) and malnutrition are life-threatening.12,13,15 Several studies investigated integrated Traditional Chinese Medicine-Western Medicine (TCM-WM) for the treatment of acute onset period of PHD; however, the correct scientific methodology was not used and the quality of clinical trials were poor, which consequently affected the authenticity and reproducibility of the conclusions. It is therefore difficult for worldwide medical circles to recognize the results, and thus the promotion and application of this type of treatment is problematic. China is a low-income country, and 70%-80% of patients live in rural areas where PHD accounts for the highest mortality rate. Therefore, it is necessary to develop a reasonable, effective, safe and suitable integrated TCM-WM program. Since 1994, clinical studies have been conducted on integrated TCM-WM in the treatment of acute onset period of CPHD. The results showed that the application of integrated TCM-WM could contribute to patients’ recovery from infection, and reduce the period of antibiotic use and hospitalization time. Clinical studies with large samples were carried out to prove the efficacy and explore the value of the program.

MATERIALS AND METHODS

Study subjects

This study included 240 PHD patients who were in the acute onset period. All subjects were inpatients of the Department of Emergency (the Affiliated Hospital of Chengdu University of Traditional Chinese Medicine), Department of Emergency and Internal Medicine (Neijiang Municipal Traditional Chinese Medical Hospital) and Department of Internal Medicine (Anyue County Traditional Chinese Medical Hospital) from March 2004 to December 2006. These patients were divided randomly into an integrated TCM-WM comprehensive treatment group (treatment group) and Western Medicine (WM) comprehensive treatment group (control group) according to the admission time. Seven cases were excluded from the study because they did not follow their medication, and three cases died within 24 h. A total of 230 cases were included in which 114 cases were in the treatment group and 116 cases were in the control group. Five cases from the treatment group and 10 from the control group did not continue the study. The statistic of comprehensive efficacy was based on the last recorded data and the final data. The baselines of gender, age, disease severity, symptoms and signs integral at the enrollment were homogeneous and comparable. This study was conducted in accordance with the Declaration of Helsinki and with approval from the Ethics Committee of Chengdu University of Traditional Chinese Medicine. Written informed consent was obtained from all participants.

Inclusion criteria

The inclusion criteria were as follows: (a) chronic bronchitis, emphysema and heart disease or other chest diseases caused by cardiovascular disease, pulmonary hypertension, right ventricular enlargement and right ventricular dysfunction, and acute exacerbation; (b) history of chronic bronchitis; (c) aged 40-85 years old; (d) within 72 h of onset; and (e) complied with the TCM differentiating diagnosis of phlegmatic hygrosis retention in lung and closed and depressed lung Qi.

Exclusion criteria

Exclusion criteria were as follows: (a) non-chronic bronchitis-caused PHD; (b) < 40 years old or > 85 years old; (c) allergy to test drug; (d) severe liver and kidney dysfunction (alanine aminotransferase, blood urea nitrogen and creatinine were more than twice normal levels); (e) accompanied by severe diseases in the blood system, endocrine and metabolic system, central nervous system and other systems; mental illness; pregnant or lactating women; (f) had serious complications such as coma, shock, gastrointestinal bleeding, DIC, pulmonary encephalopathy, pulmonary embolism, cardiac arrhythmia and coronary heart disease when admitted; (g) died within 24 h of admission; (h) Hb < 6 g/dL; (i) was in the remission period of PHD, and (j) did not comply with inclusion criterion 5. Patients were excluded if any of the 10 criteria were not met.

Grouping

Patient grouping followed the principles of randomization and control. The patients were divided into groups A (integrated TCM-WM comprehensive treatment group, the treatment group) and B (Western Medicine comprehensive treatment group, the control group). Based on the “Chronic Obstructive Pulmonary Disease Treatment Guidelines” published by the Chronic Obstructive Pulmonary Disease Group, Respiratory Diseases Branch of Chinese Society in 2002, patients were divided into light, middle and severe. The inpatients who met the inclusion criteria were dis-
distributed into groups A and B according to the admission sequence. The program was simultaneously performed at the three hospitals.

**Randomization method**

The research centers were sequenced in the following order: Anyue County Traditional Chinese Medicinal Hospital, Affiliated Hospital of Chengdu University of Traditional Chinese Medicine, and Neijiang Municipal Traditional Chinese Medicinal Hospital. The SAS software PROC PLAN (version 8.0, SAS Institute, Chicago, IL, USA) was used to randomly generate the ‘Test Center Random Number Table’ of the 240 cases, with the center number as 3 and block as 6 (including the 20% cases lost and excluded).

**Treatment methods**

Basic treatment was carried out according to the ‘Chronic Obstructive Pulmonary Disease Treatment Guidelines’ published by the Chronic Obstructive Pulmonary Disease Group, Respiratory Diseases Branch of Chinese Society in 2002. Basic treatments included controlled oxygen therapy, active and effective anti-infection, maintaining airway patency, correcting O2 deficiency and CO2 retention, correcting acid-base imbalance and electrolyte disturbance, reducing pulmonary hypertension and treating right heart failure, nutritional support and treatment of complications. Group A: basic treatment + integrated TCM differentiating therapy.

**Basic syndromes**

The basic syndromes for phlegmatic hygrosis retention in lung and closed and depressed lung Qi were as follows: (a) coughing occasionally or frequently throughout the day and night; excessive phlegm that was easy to expectorate, or gummy and difficult to expectorate; (b) white and thick, yellow white or purulent phlegm; (c) chest tightness and asthma; (d) greasy mouth and distended abdomen; and (e) pale and greasy tongue proper and slippery pulse. Patients who possessed three of the aforementioned five items combined with the tongue symptoms could be diagnosed.

Treatment methods: facilitating the flow of gastric Qi to relieve asthma, dissipate phlegm and relieve cough. Drugs (pre-compounded prescription 1): ephedra, almon, whole snake gourd fruit, bulbuls alli, prepared pinellia tuber, balloonflower root and licorice root.

**Complex syndromes**

Lung-spleen concurrent insufficiency: the complex syndromes for lung-spleen concurrent insufficiency were shortness of breath and difficulty breathing, fatigue, low or hoarse voice, pale complexion, loss of appetite or feeling full with little intake, loose or less stool, pale tongue and weak pulse.

Treatment methods: facilitating the flow of gastric Qi to relieve asthma, dissipate phlegm and relieve cough and strengthen the spleen and lungs.

Drugs (pre-compounded prescription 2): pre-compounded prescription 1, plus saussurea, villous amomum fruit, tangerine peel, pilose asiabell root, Yun Ling and fried atractylodes.

Hydoretention with asthenic Yang; the complex syndromes included panicky and palpitating patients and cough and upboroed Qi. Minor patient movement induced asthma and patients could tolerate a supine position. Other symptoms were a swollen body, especially the lower limbs; dark, low urine output; feeling cold in the body and extremities; pale or dark purple tongue, with white slippery tongue coating; and minor or occlusive pulse.

Treatment methods: facilitating the flow of gastric Qi to relieve asthma, dissipate phlegm and relieve cough and warm Yang and alleviate water.

Drugs (pre-compounded prescription 3): pre-compounded prescription 1, plus yun ling, cassia barktree twig, fried atractylodes and oriental waterplantain tuber.

**Group B: basic therapy + placebo**

A total of 100 mL of placebo was administered with the same approach as group A. The placebo was given thrice a day within 30 min after a meal with warm water. The placebo was provided by Yibin Pharmaceutical Company (Yibin, China), Wuliangye Group, in the same package as the therapeutic drug (the placebo was of similar appearance and taste to TCM medicinal broth of pharmaceutical preparations). The treatment course was 14 days.

**Observations**

Mortality, comprehensive efficacy assessment and self-life skill assessment were recorded.

**Efficacy evaluation**

Mortality rate was calculated as follows: 14-day mortality = death cases/total cases × 100%. Efficacy evaluation after a 14-day comprehensive treatment was performed according to the nimodipine score method (total score of the main symptoms and signs before treatment-total score of the main symptoms and signs after treatment)/total score of the main symptoms and signs before treatment × 100%; clinical control > 85%; excellent: 85%-61%; effective: 60%-30%; invalid: < 30%.
Statistical analysis
The measurement data were expressed as the mean ± standard deviation (\(\bar{x} \pm s\)), and the data were processed using the SPSS statistical software (version 13.0, SPSS Institute, Chicago, IL, USA). After the normal distribution test and homogeneity test of variance, the intergroup data were tested with the independent sample t-test, and the intragroup data were tested with one-way analysis of variance. Data with homogeneity of variance used the Least Significant Difference method, otherwise Tamhane’s T2 method was used. The counting data used the \(\chi^2\) test and ranked data used rank correlation. The comparison of clinical efficacy and disease efficacy took the impact of center into account and used the Cochran-Mantel-Haenszel \(\chi^2\) test.

RESULTS

Overall efficacy and turnover (Figure 1)
Table 1 shows that in group A, 11 cases were clinically controlled, 61 were excellent, 19 were effective, eight were invalid and 10 died. In group B, nine cases were clinically controlled, 44 were excellent, 31 were effective, seven were invalid and 15 died. After the nonparametric rank sum test for independent samples in the two groups, the results exhibited a statistically significant difference \((P = 0.045 < 0.05)\). The overall efficacy of group A was better than group B.

Overall clinical evaluation
Table 2 shows that after considering the central effects, the intergroup was \(\chi^2_{\text{CMH}} = 4.095 (P = 0.043)\). The intergroup comparison showed \(P = 0.043 < 0.05\), suggesting that the effects in different centers were better than group B.
Table 3 shows that after considering the central effects, the intergroup was \(\chi^2_{\text{CMH}} = 5.227 (P = 0.022)\). Considering the different severities, the comparison between groups A and B showed a significant difference \((P = 0.022 < 0.05)\). This result indicates the different disease severities, and the efficacy of group A was better than group B.

Mortality
The mortality comparison between the two groups showed no significant difference (Table 4, \(P = 0.260, > 0.05\)), indicating that the treatment could not reduce mortality.

Self-viability scores and acute onset comparison
In groups A and B, nine and 10 patients were lost to follow-up, respectively, at 1 month. At 6 months, 22 patients in group A and 21 in group B were lost to fol-
Table 1 Comparison of clinical overall efficacy in the two groups

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Clinical control (%)</th>
<th>Excellent (%)</th>
<th>Effective (%)</th>
<th>Invalid (%)</th>
<th>Death (%)</th>
<th>Z value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>109</td>
<td>11 (10.1) *</td>
<td>61 (56.0) *</td>
<td>19 (17.4)</td>
<td>8 (7.3)</td>
<td>10 (9.2)</td>
<td>-2.0</td>
<td>0.05</td>
</tr>
<tr>
<td>B</td>
<td>106</td>
<td>9 (8.5)</td>
<td>44 (41.5)</td>
<td>31 (29.3)</td>
<td>7 (6.6)</td>
<td>15 (14.1)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Notes: group A was given basic treatment and integrated Traditional Chinese Medicine differentiating therapy; group B was given basic therapy and placebo. Compared with group B, *P < 0.05.

Table 2 Comparison of efficacy between the center and considering the efficacy of central effects

<table>
<thead>
<tr>
<th>Center</th>
<th>Group</th>
<th>n</th>
<th>n (%)</th>
<th>Clinical control (%)</th>
<th>Excellent (%)</th>
<th>Effective (%)</th>
<th>Invalid (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>36</td>
<td>1 (2.8)</td>
<td>21 (58.3)</td>
<td>6 (16.7)</td>
<td>5 (13.9)</td>
<td>3 (8.3)</td>
</tr>
<tr>
<td>B</td>
<td>35</td>
<td>4 (11.4)</td>
<td>16 (45.7)</td>
<td>7 (20.0)</td>
<td>3 (8.6)</td>
<td>5 (14.3)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>A</td>
<td>36</td>
<td>4 (11.1)</td>
<td>20 (55.6)</td>
<td>7 (19.4)</td>
<td>2 (5.6)</td>
<td>3 (8.3)</td>
</tr>
<tr>
<td>B</td>
<td>36</td>
<td>4 (11.1)</td>
<td>12 (33.3)</td>
<td>13 (36.1)</td>
<td>3 (8.3)</td>
<td>4 (11.2)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>A</td>
<td>37</td>
<td>6 (16.2)</td>
<td>20 (54.1)</td>
<td>6 (16.2)</td>
<td>1 (2.7)</td>
<td>4 (10.8)</td>
</tr>
<tr>
<td>B</td>
<td>35</td>
<td>1 (2.9)</td>
<td>16 (45.7)</td>
<td>11 (31.4)</td>
<td>1 (2.9)</td>
<td>6 (17.1)</td>
<td></td>
</tr>
</tbody>
</table>

Notes: group A was given basic treatment and integrated Traditional Chinese Medicine differentiating therapy; group B was given basic therapy and placebo.

Table 3 Comparison of efficacy between the severity of the disease and considering the efficacy of effects

<table>
<thead>
<tr>
<th>Different severity</th>
<th>Group</th>
<th>n</th>
<th>n (%)</th>
<th>Clinical control (%)</th>
<th>Excellent (%)</th>
<th>Effective (%)</th>
<th>Invalid (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>A</td>
<td>4</td>
<td>2 (50.0)</td>
<td>0 (0.0)</td>
<td>1 (25.0)</td>
<td>1 (25.0)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>5</td>
<td>3 (60.0)</td>
<td>1 (20.0)</td>
<td>0 (0.0)</td>
<td>1 (20.0)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Middle</td>
<td>A</td>
<td>48</td>
<td>9 (18.8)</td>
<td>28 (58.3)</td>
<td>6 (12.5)</td>
<td>4 (8.3)</td>
<td>1 (2.1)</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>45</td>
<td>6 (13.3)</td>
<td>19 (42.2)</td>
<td>15 (33.3)</td>
<td>3 (6.7)</td>
<td>2 (4.5)</td>
</tr>
<tr>
<td>Severity</td>
<td>A</td>
<td>57</td>
<td>0 (0.0)</td>
<td>33 (57.9)</td>
<td>12 (21.1)</td>
<td>3 (5.3)</td>
<td>9 (15.7)</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>56</td>
<td>0 (0.0)</td>
<td>24 (42.9)</td>
<td>16 (28.6)</td>
<td>3 (5.4)</td>
<td>13 (23.1)</td>
</tr>
</tbody>
</table>

Notes: group A was given basic treatment and integrated Traditional Chinese Medicine differentiating therapy; group B was given basic therapy and placebo.

Table 4 Comparison mortality in the two groups

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Death cases</th>
<th>Mortality rate (%)</th>
<th>χ² value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>109</td>
<td>10 *</td>
<td>9.17</td>
<td>1.30</td>
<td>0.26</td>
</tr>
<tr>
<td>B</td>
<td>106</td>
<td>15</td>
<td>14.15</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Notes: group A was given basic treatment and integrated Traditional Chinese Medicine differentiating therapy; group B was given basic therapy and placebo. Compared with group B, *P < 0.05.

Table 5 shows that a statistical significance in the self-life viability scores was not observed between the two groups before treatment (*P > 0.05). After a 14-day treatment, the self-life viability scores of the two groups at the 1-month and 6-month follow-up were lower than before the treatment, with statistical significance (*P < 0.05). The self-life viability scores in group A were significantly lower than those of group B (*P < 0.05) after a 14-day treatment.

No significant difference was observed in the acute onset between the two groups at 6 months after treatment (Table 6, *P > 0.05).

Blood gas changes

Table 7 shows that no significant difference was observed in PaCO₂ and PaO₂ of the two groups before treatment (*P > 0.05). Three days after treatment the PaCO₂ of both groups decreased, whereas the PaO₂ increased and exhibited statistical significance compared with the results before treatment (*P < 0.05). The intergroup comparison showed that the PaCO₂ in group A was significantly higher, and PaCO₂ exhibited statistical significance and decreased in both groups (*P < 0.05). Seven days after treatment, PaCO₂ decreased in both groups, whereas PaO₂ increased and exhibited statistical significance compared with the results before treatment (*P < 0.05). The intergroup comparison showed that the PaO₂ in group A was significantly higher, and PaCO₂ exhibited statistical significance and decreased in both groups (*P < 0.05). PaCO₂ decreased in both groups, whereas PaO₂ increased (*P < 0.05) 14 days after treatment. The intergroup comparison showed
that the PaO₂ in group A was significantly higher, and PaCO₂ exhibited statistical significance and decreased in both groups (P < 0.05).

**Hospitalization days**

The hospitalization days of group A were shorter than group B, with statistical significance (Table 8, P < 0.05). This result indicates that the integrated TCM-WM therapy could shorten hospital stay.

**Total hospitalization cost**

The integrated TCM-WM therapy could shorten hospital stay and lower the hospitalization cost (Table 9).

**DISCUSSION**

The results showed that the comparison among the different centers or the disease severity comparison sug-

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**Table 5** Self-viability scores of the two groups before and after treatment ( x ± s)

<table>
<thead>
<tr>
<th>Group</th>
<th>Before n</th>
<th>Score</th>
<th>14 days after n</th>
<th>Score</th>
<th>1 Month after n</th>
<th>Score</th>
<th>6 Months after n</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>109</td>
<td>6.9±1.0</td>
<td>109</td>
<td>4.2±1.1(a)</td>
<td>109</td>
<td>3.4±0.8</td>
<td>109</td>
<td>2.6±0.7(a)</td>
</tr>
<tr>
<td>B</td>
<td>106</td>
<td>7.0±1.0</td>
<td>106</td>
<td>4.8±1.0(a)</td>
<td>106</td>
<td>3.9±1.0(a)</td>
<td>106</td>
<td>3.1±0.8(a)</td>
</tr>
</tbody>
</table>

Notes: group A was given basic treatment and integrated Traditional Chinese Medicine differentiating therapy; group B was given basic therapy and placebo. Compared with the results before treatment, \(P < 0.05\), compared with group B, \(P < 0.05\).

**Table 6** Comparison of acute onset of the two groups ( x ± s)

<table>
<thead>
<tr>
<th>Group</th>
<th>1-month after cases n</th>
<th>Acute onset</th>
<th>6-Month after cases n</th>
<th>Acute onset</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>109</td>
<td>0.3±0.5(a)</td>
<td>109</td>
<td>0.9±0.7</td>
</tr>
<tr>
<td>B</td>
<td>106</td>
<td>0.6±0.7</td>
<td>106</td>
<td>1.0±0.8</td>
</tr>
</tbody>
</table>

Notes: group A was given basic treatment and integrated Traditional Chinese Medicine differentiating therapy; group B was given basic therapy and placebo. Compared with group B, \(P < 0.05\).

**Table 7** Changes of the blood and gas analysis between the two groups before and after treatment ( x ± s)

<table>
<thead>
<tr>
<th>Group</th>
<th>Time</th>
<th>n</th>
<th>PaCO₂ (Kpa)</th>
<th>PaO₂ (Kpa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Before</td>
<td>109</td>
<td>8.7±1.3</td>
<td>7.6±1.3</td>
</tr>
<tr>
<td></td>
<td>3 days after</td>
<td>109</td>
<td>7.8±1.3(a)</td>
<td>8.3±0.9(a)</td>
</tr>
<tr>
<td></td>
<td>7 days after</td>
<td>109</td>
<td>7.2±1.2(a)</td>
<td>9.4±0.9(a)</td>
</tr>
<tr>
<td></td>
<td>14 days after</td>
<td>109</td>
<td>6.7±1.2(a)</td>
<td>10.7±1.5(a)</td>
</tr>
<tr>
<td>B</td>
<td>Before</td>
<td>106</td>
<td>8.9±1.1</td>
<td>7.4±0.8</td>
</tr>
<tr>
<td></td>
<td>3 days after</td>
<td>106</td>
<td>8.2±1.1(a)</td>
<td>7.9±0.9(a)</td>
</tr>
<tr>
<td></td>
<td>7 days after</td>
<td>106</td>
<td>7.6±1.3(a)</td>
<td>8.8±1.3(a)</td>
</tr>
<tr>
<td></td>
<td>14 days after</td>
<td>106</td>
<td>7.0±1.4(a)</td>
<td>9.8±1.5(a)</td>
</tr>
</tbody>
</table>

Notes: group A was given basic treatment and integrated Traditional Chinese Medicine differentiating therapy; group B was given basic therapy and placebo. Compared with the results before treatment, \(P < 0.05\); compared with group B, \(P < 0.05\).

**Table 9** Comparison of total hospitalization cost of the two groups ( x ± s)

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Total hospitalization cost (RMB)</th>
<th>Z</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>114</td>
<td>5258±144(a)</td>
<td>92.95</td>
<td>0.00</td>
</tr>
<tr>
<td>B</td>
<td>116</td>
<td>7051±148</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Notes: group A was given basic treatment and integrated Traditional Chinese Medicine differentiating therapy; group B was given basic therapy and placebo. Compared with group B, \(P < 0.05\).

Suggested that the efficacy of an integrated TCM-WM program was better than the conventional Western Medicine program. Although the effects of the two groups in reducing mortality were considerably equal \((P > 0.05)\), the mortality of group A decreased by 4.98% compared with group B, indicating that the treatment reduced mortality. The main reasons for the efficacy of this program were three-fold. First, the program used the method of releasing lung phlegm and dissipating it, which promoted phlegm drainage and helped patients recover from infection. Second, the program combined the method of strengthening spleen and lung and promoting food intake, thus improving nutritional status and immunity. Third, the program combined the method of warming Yang and alleviating water, improv-
The comparison of the total hospitalization cost between WM treatment could shorten the hospitalization stay. The effect-obtaining time of group A was shorter and helped shorten the course of treatment. The effect-obtaining time of group A might be associated with the better effects of TCM in facilitating expectoration of phlegm in lungs and cough relief, strengthening of spleen, benefiting Qi, warming Yang and alleviating water. When the lung circulation was normal, the cough would be self-balanced. When the spleen was healthy, the stomach could digest food, the phlegm would be dissolved, the Qi function and body fluid circulation would be smooth and the clinical symptoms would be cured. The test results showed that the two treatment programs could improve the signs, but the integrated TCM-WM comprehensive treatment exhibited more noticeable advantages in improving wheezing, respiratory rate, consciousness, cyanosis and edema. The effect-starting time was significantly shortened compared with conventional Western Medicine treatment. This result indicates that the integrated TCM-WM had obvious synergies in relieving dyspnea, improving ventilation, correcting hypoxia, promoting infection control and inflammation absorption. The daily activities of CPHD patients are restricted because of cardiopulmonary dysfunction. The quality of life of these patients can decline in all aspects, especially in the acute onset period, which mainly appears as viability that significantly reduces or is even lost. Therefore, self-life viability is also an important sign of disease severity. This study showed that no statistical significance was observed between the two groups in self-life viability scores before treatment (P > 0.05). At 14 days after treatment and at the 1-month and 6-month follow-up, the self-life viability scores of the two groups were lower than those before the treatment, with statistical significance (P < 0.05). The scores in group A were significantly lower than those in group B, with statistical significance (P < 0.05). The number of acute onset cases reduced 1 month after the treatment (P < 0.05), suggesting that integrated TCM-WM treatment had noticeable advantages in improving the viability of CPHD patients. The research results suggested that integrated TCM-WM treatment could shorten the hospitalization stay. The comparison of the total hospitalization cost between the two groups indicated that the cost of group B was significantly higher than that of group A (P < 0.05), indicating that integrated TCM-WM treatment could reduce the medical cost. Integrated TCM-WM could also shorten the treatment time, dilute phlegm, promote the drainage of phlegm, increase the effect of anti-infection treatment and reduce the grade of antibiotics. These effects not only have the advantages of easing the patient’s condition and improving quality of life, but also reduce and save hospitalization and medical costs and are more suitable for the condition of Chinese populations. In summary, an integrated TCM-WM comprehensive treatment program showed comprehensive clinical efficacy toward the acute onset period of CPHD patients. These findings were mainly observed in resolving phlegm drainage problems, improving gastrointestinal functions, promoting nutritional recovery in patients and maintaining the avoidance of water and electrolyte balance because of the correction of heart and lung functions. The program exhibited a reducing trend in mortality. It could improve patients’ symptoms, promote patients’ recovery from infection, shorten the period of antibiotic use and time of hospitalization, and reduce hospitalization cost.

REFERENCES


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