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Investigation on the Value of "Four in One" Traditional Chinese Medicine Health Management Model in Clinical Disease Application

Huiqin Ren*

School of Health Industry Management, University of Sanya, Sanya, China
543064912@qq.com
**corresponding author*

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Abstract: The Traditional Chinese Medicine health management (TCM PHM) model based on the treatment concept of "harmony between heaven and man, and people-oriented" plays an important role in clinical medicine. The TCM PHM model guided by the idea of treating diseases before they occur can help patients conduct psychological counseling, and reduce the recurrence rate of diseases, so as to improve the quality of life and health of patients. This article studied clinical diseases through the PHM model of TCM, and conducted clinical controlled observation to check the physical condition of patients, thus providing guidance and treatment basis for the PHM of similar diseases. Research methods: From 2022 to 2023, 100 patients who underwent surgery in hospitals were selected as observation subjects to explore the value of TCM PHM. These patients were randomly divided into a control group and an intervention group on average. Two different PHM models developed according to the control group and the intervention group were strictly implemented. The experimental results showed that there was no significant difference in pulse signals between the control group and the intervention group before the implementation of the PHM plan. $P>0.05$, and this was not statistically significant. After the implementation of the PHM plan, it was found that all indicators in the intervention group were higher than those in the control group. In terms of mastering health knowledge, the excellent and good rate in the intervention group was 96%, while the excellent and good rate in the control group was 92%. $P<0.05$, and this was statistically significant. This indicated that the "four in one" TCM PHM model improved the patient's TCM physique, and enhanced the patient's health knowledge mastery level, which also improved the patient's PHM effectiveness in terms of patients, family members, PHM teams, and strengthening follow-up management.

1. Introduction

The cure and rehabilitation of clinical diseases is not only reflected in drug treatment, but also requires patient PHM. Currently, with the intensification of aging and the emergence of various

chronic and social diseases, PHM is becoming increasingly important in disease prevention and cure. In TCM, the concept of "preventive treatment of disease" of preventing diseases before they occur and preventing existing diseases from changing as well as preventing recurrence after recovery conforms to the expectations of the current people for PHM, and has important practical significance [1-2].

1.1. Investigation on the Application of TCM Health Management Model to Clinical Diseases

Research on how to adopt the PHM model of TCM in the rehabilitation treatment of clinical diseases has been carried out around the world. Taylor Y J used transitional nursing management to study diabetes patients in a rural environment. By assessing the needs of family health services and transportation assistance, and arranging primary care follow-up visits, rural areas were helped to reduce the number of admissions of diabetes patients [3]. Zhang X added the effect of TCM physique recognition to the PHM of the elderly in Shuangzhao Street, Xianyang City. In the prevention of diseases among the elderly, the application of TCM PHM not only improved the health knowledge of the elderly in the community, but also significantly improved the physical indicators and quality of life of the elderly [4]. Li L introduced and discussed the application of TCM constitution in health preservation and disease prevention. He believed that the theory of TCM constitution was applied at different levels in China's public PHM, and achieved good results. The theory and practice of physique provided a new way for health preservation and disease prevention [5]. Zhang J adopted a new comprehensive diagnosis and treatment model to help patients with extreme obesity undergo surgery. He believed that this model combined external treatment of TCM, PHM, and Western metabolic surgery techniques. It was a multi-disciplinary, multi-channel, and multi means to recognize and treat obesity, thus forming an innovative model of obesity diagnosis and treatment combining traditional Chinese and Western medicine. This model provided precise syndrome differentiation, personalized treatment, and follow-up management for extremely obese patients, with strong scalability and significant clinical efficacy [6]. The use of TCM PHM model in clinical disease treatment had a long history. These scholars' studies were all useful disease treatment methods, but their studies did not make a comprehensive discussion of TCM PHM model.

In summary, this article used a "four in one" TCM PHM model to promote the efficiency of patients' recovery from clinical diseases, thus fully considering the concept of TCM treatment. From the perspectives of patients, family members, PHM teams, and follow-up management, active intervention was conducted in disease treatment to prevent the occurrence of significant risk events [7-8].

1.2. Investigation Content

(1) First of all, through literature analysis, the research results of TCM PHM model in the world were analyzed, and the role of TCM PHM in clinical diseases was deeply analyzed, so as to find theoretical support for the "four in one" TCM PHM in this paper and analyze the practical significance of this model.

(2) The relevant concepts of "four in one" Chinese medicine PHM have been sorted out, and a management plan for postoperative treatment of clinical diseases has been constructed based on the "four in one" Chinese medicine thinking.

(3) Postoperative data on patients with clinical diseases were collected. Excel files of patient data were created, and intervention and control groups were set up. SPSS 22.0 (Statistic Package for Social Science 22.0) statistical software was used to analyze the data and observe the efficiency of

postoperative rehabilitation between patients who had implemented TCM PHM interventions and those who had not implemented them [9-10].

(4) The role of TCM PHM model in clinical disease rehabilitation was discussed and summarized

2. Evaluation of Relevant Concepts

2.1. Health Management

The idea of PHM has been around for a long time, and it can effectively reduce the harm and severity of health risks. This also conforms to the actual needs of people with increasing health awareness and increasing health needs. The concept of PHM is currently recognized and widely used in the world as one of the disease intervention concepts [11-12].

2.2. "Four in One" TCM Health Management Model

At present, TCM PHM is mainly a disease management method based on modern medicine and the idea of "TCM treating disease before disease", and "four in one" is an important application value of this model [13-14]. The "four in one" TCM PHM model refers to people-centered management, that is, patient-centered management; this is based on the family as a unit and the community as a scope, which is also the management of the health service team; there is also a continuous service throughout the process, that is, real-time capture and judgment of patient health information, namely follow-up management [15-16]. From these four aspects, the treatment management plan was formulated for the identification of patients' TCM constitution, diet and daily life, emotional rehabilitation and sports, acupuncture and moxibustion and massage rehabilitation [17-18].

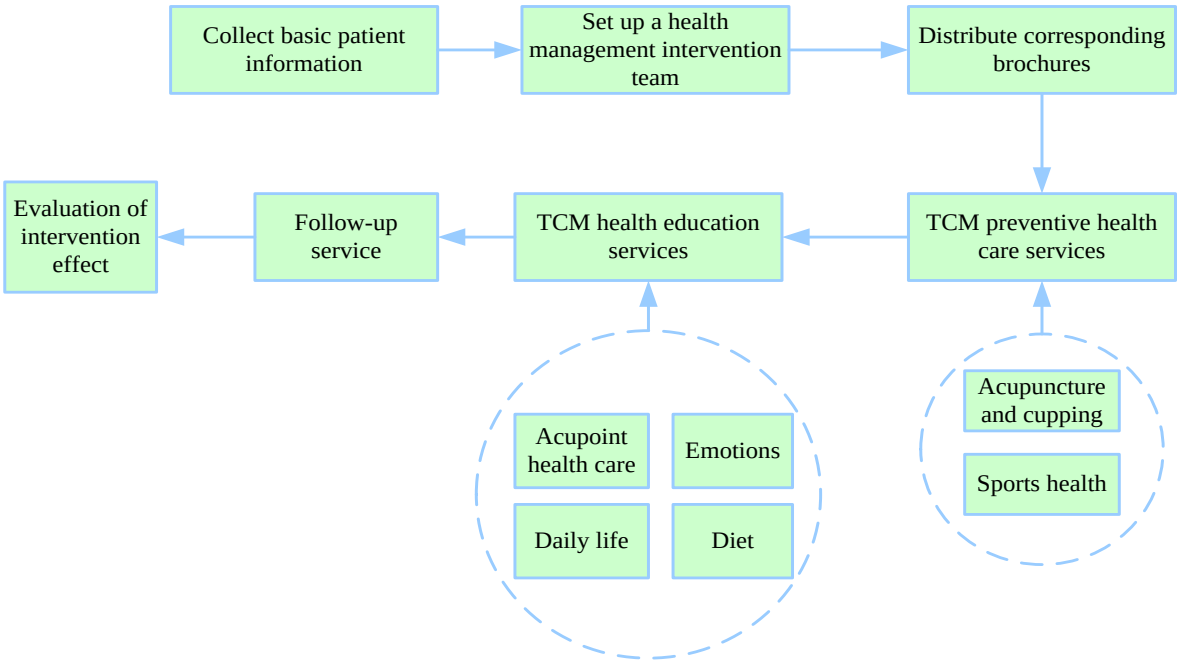


Figure 1: Comprehensive intervention method of TCM PHM.

Figure 1 shows a comprehensive intervention method for TCM PHM. By using the "four in one" TCM PHM intervention treatment for patients, an intervention team is established to

comprehensively assist patients in treating diseases from the perspective of physique identification, TCM PHM, health care, and education services, which is combined with community PHM [19-20].

3. Experimental Evaluation and Result Investigation

3.1. Experimental Objects

A total of 100 patients who underwent surgery in a hospital from 2022 to 2023 were observed and randomly divided into a control group and an intervention group, with 50 patients in each group. The specific information of the patient is shown in Table 1:

Table 1: Patient information.

	Gender/case		Age of patients/case			Type of surgery/case		
	Male	Female	20~35	36~55	56~75	Orthopedic Surgery	Neurosurgery	Pulmonary Surgery
Control Group	26	24	13	19	18	16	19	15
Intervention Group	23	27	11	23	16	15	15	20

(Description of experimental subjects: Both the control group and the intervention group met the relevant surgical instructions, and these 100 patients also had the ability to communicate normally. All the experimental participants signed an informed consent form.)

In Table 1, patients with three clinical diseases after surgery were mainly selected for observation: orthopedic surgery, neurosurgery surgery, and lung surgery. The age of patients was concentrated between 20 and 75, with a relatively average male to female ratio.

3.2. Experimental Method

The control group mainly adopts conventional Western medicine treatment schemes, mainly focusing on medication related to postoperative rehabilitation of the disease. It provides an explanation of the patient's condition, as well as health knowledge and life guidance for rehabilitation.

The intervention group adopted the "four in one" TCM PHM plan: First, a TCM PHM and rehabilitation team was established for patients, with patients as the center. Medical personnel help with PHM. Based on the physique of each patient, a targeted rehabilitation treatment plan was developed for patients. The PHM content includes: living management, diet management, emotional management, acupuncture and moxibustion and sports management.

In addition to the patient's own management, PHM is also conducted for the patient's family members, mainly including explaining the content of TCM PHM to the patient's family members, promoting their participation, and enhancing their enthusiasm for PHM.

The last is follow-up management. The forms of follow-up include outpatient follow-up, family follow-up, telephone and internet follow-up, etc. The follow-up period baseline includes 6 months and 12 months. This article used the 6-month follow-up period baseline.

3.3. Observation Indicators

Constitution determination involves asking patients to fill in the TCM Constitution Identification Scale through the four diagnostic methods of looking, listening, asking and feeling the pulse. The scoring mode in the table is reverse scoring, namely, 5→1, 4→2, 3→3, 2→4, 1→5. The conversion score of TCM constitution is expressed as: A; the original score of TCM constitution is expressed as A_O; the total number of entries is expressed as T_{NUM}. The formula for calculating the conversion score of TCM constitution is expressed as follows:

$$A = [(A_O - T_{NUM})/(T_{NUM} * 4)] * 100 \quad (1)$$

Table 2: Classification criteria of TCM constitution transformation.

The average quality conversion score was ⩾60, and the remaining eight kinds of biased quality conversion score was < 30	Constitution of peace
The score of moderate quality transformation was ⩾60, and the remaining eight kinds of biased quality transformation was < 40	It is basically a peaceful constitution
Biased constitution conversion score ⩾40 points	It's a biased constitution
Biased constitution conversion score 30 ~ 39	A tendency is a biased constitution
Biased constitution conversion score < 30	Not a biased constitution

Table 2 was the criteria for judging the physical transformation score. Among them, the transformation score of the peaceful constitution was over 60 points, and the transformation score of the eight biased qualities was less than 30 points or 40 points, which could be judged as the peaceful constitution. The biased physique was equal to or above 40 points. Biased physique could be judged based on conversion scores of 30 to 39. A constitution below 30 could not be judged as biased.

The rate of excellence was used as a criterion for assessing the mastery of health knowledge, and a questionnaire was used to investigate patients. Among them, the total score was 100 points, and 85 points were excellent. A score of 70-85 was good, and a score below 70 was poor. The excellent rate formula is as follows:

$$G_{rate} = (X + Y)/\text{Total case} * 100\% \quad (2)$$

Among them, the excellent rate is expressed as G_{rate}; excellence is expressed as X; good is denoted by Y.

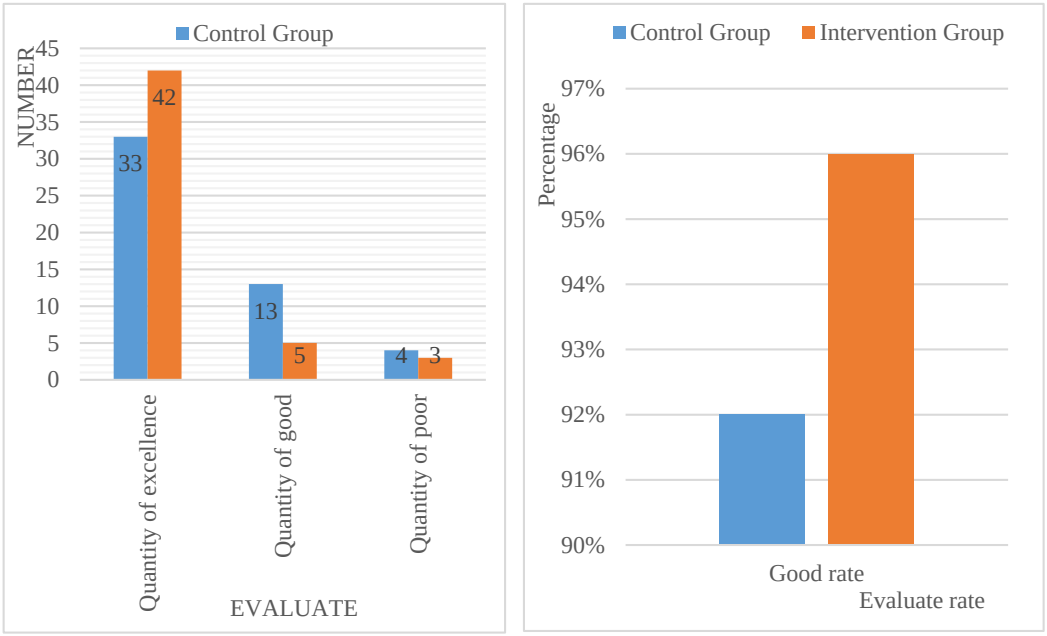
3.4. Statistical Methods

Excel data files are created for relevant data, and statistical description and inference of the data are performed using statistical software SPSS26.0. The measurement representation mode is: $\overline{X} \pm s$, and the t test is used, with n% representing the count. The X^2 test is used, and P<0.05 indicates that the difference is statistically significant.

3.5. Experimental Results

Table 3: Comparison of PHM quality score changes before and after the two groups' management.

Group	Identification of constitution		Acupuncture and Exercise		Diet management		Management of emotions	
	Before	After	Before	After	Before	After	Before	After
Control Group	53±9.362	59±8.236	7.23±1.38	7.88±1.23	7.08±1.59	8.22±1.31	7.16±1.28	8.24±1.45
Intervention Group	54±9.214	62±8.214	7.21±1.36	8.62±1.12	7.01±1.43	9.17±1.21	7.26±1.32	9.11±1.21
t	0.45	1.354	0.19	3.28	1.38	4.52	0.19	3.52
p	0.86	0.01	0.82	0.00	0.56	0.00	0.86	0.00



(a). The number of people with excellent, good and poor health knowledge
(b). Distinguished achiever ratio

Figure 2: Comparison of good and good rates of health knowledge mastery between the two groups after management.

It could be seen from the comparison of the data of PHM quality and health knowledge of the intervention group and the control group in Table 3 and Figure 2 that before the implementation of management, the TCM physique determination score, sports acupuncture and moxibustion score, diet management score, opinion, emotion and PHM score of the patients in the two groups P>0.05, which were not statistically significant. After the "four in one" TCM PHM, the scores of each intervention item were higher than those of the control group and P<0.05, with statistical significance. In terms of health knowledge mastery, the excellent and good rate in the intervention group was 96%, while the excellent and good rate in the control group was 92%, and P<0.05. It could be seen that the health knowledge mastery in the intervention group was better than that in the control group, with statistical significance. It could be seen that adopting the "four in one" plan to provide overall health care for patients was feasible, which could not only improve the health level of patients, but also enable them to actively participate in physical exercise, thereby enhancing their

own immunity and preventing the occurrence of diseases, thus promoting the healthy development of the body, with important practical significance.

Table 4: Recurrence in the intervention group and the control group at 6 months after follow-up treatment

Group	No recurrence	1 time	2 times	⩾3times	P
Intervention Group	45	3	1	1	0.013
Control Group	35	7	5	3	

According to Table 4, after half a year of follow-up, by comparing the recurrence rate of patients in the intervention group and the control group after surgery, it could be seen that the recurrence rate in the intervention group was 10%, while the recurrence rate in the control group was 30% and $P \leqslant 0.05$, which was statistically significant. The data showed that the recurrence rate in the intervention group was lower than that in the control group. It could be seen that using the "four in one" TCM PHM could help patients better recover their efficacy and lower the recurrence rate, and reduce the incidence of complications, so as to reduce the incidence of adverse reactions and improve the quality of life, which is worthy of further promotion and use.

3.6. Evaluation of Experimental Results

According to Table 3, Table 4, and Figure 2, the comparison of the scores of the intervention group and the control group, the comparison of the excellent and good rates, and the comparison of the follow-up treatment situation reflected the concept of "preventive treatment of disease" in TCM, and emphasized the prevention of the risk of disease recurrence through governance. Program intervention and health education should be implemented simultaneously. Therefore, the "four in one" TCM PHM could help patients enhance their health awareness and effectively prevent the recurrence of diseases. The starting point of PHM in TCM was physical condition. Through investigating clinical patients' medical history, living habits, family environment, personality characteristics, and other information, and combining the results of TCM's four diagnostic methods of looking, listening, asking and feeling the pulse a personalized management plan was established, which was continuously tracked, adjusted, and optimized. This achieved the goal of reducing or controlling the recurrence rate of disease from the source, thus reducing the occurrence of complications and improving prognosis, thereby promoting rehabilitation and ultimately improving the quality of life. Therefore, TCM PHM was of great significance for the treatment of clinical diseases.

4. Conclusions

The intervention measures of the TCM PHM plan are active health care that can be operated at home. The utility model is simple and practical, safe and easy to operate, simple and easy to learn, with significant clinical effects, and is easily recognized and accepted by most patients and their families. It is worth promoting and using in clinical practice.

The TCM PHM model in this study was conducted under the guidance of the concept of treating diseases before they occur. The "four in one" TCM PHM model included the following four steps: (1) The physical information of patients with clinical diseases after surgery was collected, including the patient's profile, current health status, lifestyle, routine physical and chemical examinations, and TCM syndrome differentiation and classification, with the aim of grasping the patient's profile and laying the foundation for personalized PHM in the future. (2) The health and disease risks of patients with clinical diseases after surgery were evaluated, including improving the level of disease

awareness, identifying unhealthy lifestyles and adverse emotions, etc. The purpose was to help patients have a comprehensive understanding of health risks, and encourage and assist patients to correct their unhealthy life behaviors and habits, so as to develop personalized health interventions for different patients. (3) Based on the previous two steps and in accordance with the PHM intervention plan, the intervention was carried out in a planned manner, thus assisting patients with clinical diseases in various forms in postoperative actions, correcting poor lifestyles and habits, and controlling health risk factors. (4) Outpatient follow-up and family follow-up were used, with telephone and internet follow-up for 6-12 months to understand the patient's physical condition, thereby truly being patient oriented and contributing to the patient's complete recovery. In summary, the "four in one" TCM PHM model achieved good results in the recovery of patients after surgery, and could effectively improve the quality of patient PHM and the level of health knowledge mastery.

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