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Original article

Quality of life and self-care in elderly patients with cardiovascular diseases: The effect of a Traditional Chinese Medicine health educational intervention

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ABSTRACT

Aims: To explore the effects of a Traditional Chinese Medicine health educational intervention on the quality of life and self-care agency of elderly patients living with chronic cardiovascular disease.
Background: Cardiovascular disease is a leading cause of morbidity and mortality worldwide. The secondary prevention and treatment for chronic cardiovascular disease emphasize the importance of lifestyle modification. However, behavior-changing is difficult and individual choices are influenced by broader environmental factors. The lifestyle intervention for the purpose of self-care enhancing should be considered the driving force from the cultural element.
Methods: The study was conducted from April 2014 to October 2014. Ninety-eight community dwelling individuals with chronic cardiovascular disease were recruited from Shaoxing and randomized. 48 participants were in the intervention group with a 6-month Traditional Chinese Medicine health education and 50 participants were in the control group with routine care. The main measurements included health-related quality of life and self-care agency, which was assessed by the Short Form-36 Chinese version and the Exercise of Self-Care Agency Scale respectively, and were measured at the baseline and post intervention (6 months after baseline).
Results: After 6 months of intervention, the quality of life and self-care agency in the intervention group were significantly improved.
Conclusions: The traditional Chinese medicine health education is an effective method for promoting quality of life and self-care agency in cardiovascular disease patients. It could be applied as adjunctive care for cardiovascular disease patients self-care supporting.

1. Introduction

Along with the development of social economy, changing of the lifestyle, acceleration of the aging process, the prevalence of cardiovascular disease is increasing in China. Although the advances in medical technology for cardiovascular disease (CVD) greatly reduce cardiac mortality rates, further risk of cardiac events such as myocardial infarction, unstable angina and heart failure is still increasing (Go et al., 2013). The burden of CVD remains heavy and has grown up to get an important public health issue (Al-Mallah et al., 2015; Wang et al., 2014). Effective strategies should be taken urgently for the prevention of CVD (Fuster & Kelly, 2011).

The strong evidences demonstrated that lifestyle interventions had a beneficial effect on recurrent cardiovascular events (Ijzelenberg et al., 2012; Ose et al., 2012). Lifestyle intervention aimed at promoting patient's self-care behaviors as a part of daily life to reduce risk factors of disease (Arena, 2013; Dickson et al., 2013; Fort et al., 2015; Liu, Chen, Zhang, & Lin, 2015; Perk, De Backer, Gohlke, et al., 2012). However, behavior-changing was difficult and individual choices were influenced by broader environmental factors. It is necessary to conduct a multidisciplinary comprehensive lifestyle intervention program for CVD patients with multiple modifiable risk factors. Literatures have shown that patient's self-care behaviors stemmed from the cultural context (Williams et al., 2010; Williams & Aomanahan, 2009). Therefore, the lifestyle intervention for the purpose of self-care enhancing should be considered the driving force from the cultural element.

In Chinese culture, the philosophy of traditional Chinese medicine (TCM) has penetrated into many aspects of health preservation. The basic theories and some techniques of TCM have been accepted globally (Ai Lin, Chen, Mou, Sun, & Hung-Rong, 2016; Davidson et al., 2003;

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Wang, Guo, & Li, 2016). TCM emphasized the concept of viewing the individual's condition holistically (Li, 2016). According to this concept, the human body could be regarded as an organic whole. Each constituent part was structurally inseparable, functionally coordinated and mutually influencing (Hao, Liu, Yue, & Liu, 2011). In TCM view, illness was regarded as a condition of disharmony among the natural, the individual and the social environments. Hence, some common health management strategies that rooted from the philosophy of TCM proposed adjusting the body's balance to help people recover from a state of inharmony (Fan et al., 2014; Li et al., 2013).

TCM mainly focused on individual's self-regulation and self-rehabilitation which can keep a dynamic balance for the body. Methods of TCM for health preservation included mental adjustment, proper diet, physical exercise, self-management and so on. We believe TCM elements can be integrated into health education to help CVD patients to build better behaviors and lifestyles. The possibility of inserting the TCM philosophy into the self-care of Chinese CVD patients will be discussed.

2. Methods

2.1. Study design

We sought to develop a community-based TCM health educational intervention for CVD patients. We hypothesized that the TCM health educational intervention group would present more positive effect on quality of life (QOL) and self-care agency than the control group. This quasi-experimental study evaluated the effect of TCM health educational intervention. The intervention group received a 6-month TCM health education in addition, while the control group received routine health education only. This study was carried out from April 2014 to October 2014 in Shaoxing, Zhejiang province, China.

2.2. Participants

Using convenience sampling method, the CVD patients were recruited from the community adult education centre. The sample size is calculated by G-Power 3.0 which was based on carrying out the *t*-test. The expected effect size was 0.70. We estimated 90% statistical power and 5% significance. The software showed that we need to recruit at least 44 cases per group. We estimated the 10% attrition rate and considered the number of trained nurses and doctors who were available for a TCM health educational intervention. Finally, a total of 120 eligible patients consented to participate in the study. The patients were randomly assigned into one of two groups by using a computer-generated random sequence number (Zhang et al., 2014). The flow diagram is presented in Fig. 1. The inclusion criteria were: (1) was diagnosed with cardiovascular disease within the 1 year, (2) was > 60 years of age, (3) could understand and communicate in Chinese, (4) could access to a telephone at home. The exclusion criteria were: (1) below 60 years of age, (2) unable to understand Chinese sufficiently to answer the questionnaires, (3) with cognitive impairment, which prevented them from completing the questionnaires, (4) stroke, acute myocardial infarction, or coronary revascularization within the previous 3 months, (5) chronic heart failure with ejection fraction < 20%, cognitive impairment, and non-cardiac life-threatening illness. The objects received routine medical treatment throughout the study.

2.3. Intervention

TCM health educational intervention designed to increase patients' quality of life and self-care ability and included the following sections: (1) Initial intervention; (2) TCM health education lecture; (3) TCM health-coaching telephone; (4) TCM health preservation handbook.

The initial intervention was delivered in the community health centre when the patients took physical checkup. The self-care needs were evaluated by nurse. Patients' individual condition was identified through TCM diagnostic methods and clinical examination by a doctor. Results and findings were discussed with the team members including patients, doctor and nurse. The participants were informed about the objectives and duration of educational intervention and they were made available to the timing of the program.

TCM health education sessions were conducted once a month (1 h for each time) by a community TCM doctor and a nurse in the community adult education centre. This session was aimed to strengthen participants' knowledge and skill of TCM health preservation. Each lecture has one special topic. The contents included the basic theory of TCM health preservation, health preservation complies with the four seasons, proper diet, properly administer drugs, TCM massage (Table 1). During the lecture, the theoretical knowledge was firstly described by a doctor, then the nurse instructed the patients to combine theoretical knowledge with daily life.

TCM health-coaching telephone was conducted once every three months. According to the individual needs, the duration of each health-coaching telephone call varied from 15 to 20 min. The health-coaching telephone aimed to know the patient's progress in diet management, drug administration, exercise and any barriers to achieving daily self-care. In these sessions, if the patient performance negative attitude and incorrect understanding, the encouragement and necessary guidance will be provided to correct errors.

The handbook contained detailed information of health educational lectures and supplemented to group education. While the patients stayed at home, they can refer to the handbook for information.

The intervention was conducted by one senior community nurse and one TCM doctor who had > 10 years of experiences in TCM care. Before the study, the nurse and doctor attended a four-hour training session. The study protocol was discussed by the nurse and doctor to ensure consistency during the intervention. The principal investigator monitored the conduct of the intervention.

The control group received routine health education which provided by the community doctor and nurse. They could get further information from their doctor or nurses when they needed.

2.4. Measures

The Demographic Inventory was used to measure age, marital status, education, occupation (now or previously, if retired).

2.4.1. Quality of life

The Chinese version of the Short Form Health Survey (SF-36) was utilized to measure the QOL in this study (Wang, Chen, Yang, & Wu, 2015). SF-36 comprises 36 questions that measures eight domains of both physical and mental domains: physical functioning (PF), role limitation in physical status (RP), body pain (BP), general health (GH), vitality (VT), social functioning (SF), role emotional (RE) and mental health (MH). Score was calculated by using the SF-36 Health Survey Manual and Interpretation Guide. The higher score indicates better QOL.

2.4.2. Self-Care Agency

The Exercise of Self-Care Agency Scale (ESCAS) was developed by Kearney and Fleischer (Kearney & Fleischer, 1979). The instrument has four dimensions: health knowledge, self-concept, self-care responsibility, self-care ability. The instrument has been used in Chinese mainland (Wang, Fan, & Han, 2013; Wang & Laffrey, 2000). Items are scored on a 5-point scale. The total score was summed items and can range from 0 to 172. The higher score indicates better perceived self-care agency.

2.5. Data collection

One TCM doctor and one community nurse selected eligible patient.