

The effect of Daoist cognitive therapy on Chinese patients with coronary heart disease: 5-year follow-up study

Jin-Fu Zhu, De-seng Young

Abstract. *Objectives* Five-year follow-up study of the effects of Daoist Cognitive Therapy (DCT) on Chinese patients with Coronary Heart Disease (CHD). *Methods* The five-year follow-up study was designed to investigate and compare a study group and a control group to determine differences between them. Members of the study group were provided with DCT shortly after they recovered from acute CHD. The DCT was developed by utilizing Chinese ancient Daoist philosophy in a combined format of group discussions, daily life examination, and relaxation exercises. It was aimed to help the patients to develop “detached attitudes” toward excessive desire and ambition. Both the study group and the control group were initially evaluated using the Type A Behavior Scale and the self-designed Mental Detachment Scale. Five years later, they were evaluated using these two scales again to determine any change or improvement. The data obtained were analyzed statistically for comparison. *Results* Positive scores indicating Type A behavior were significantly less for the study group than for the control group (14.3% vs. 30.6%, $\chi^2=4.22$, $p<0.05$); the scores indicating the achievement for mental detachment (from excessive desire) were significantly higher for the study group than for the control group ($t=-4.12$, $p<0.01$). The rate of death due to recurrence of CHD was significantly less for the study group than the control group (2.2%/11.2%, $\chi^2=4.13$, $p<0.05$). *Conclusion* The Daoist cognitive therapy had a significant, long-term effect in changing the patients’ personalities and attitudes toward life, which, in turn, reduced the risk of a recurrence of CHD.

Keywords: Daoist cognitive therapy, coronary heart disease, therapeutic effects, follow-up study, Chinese.

WCPRR March 2013: 45-50. © 2013 WACP
ISSN: 1932-6270

INTRODUCTION The occurrence of Coronary Heart Disease (CHD) is considered to be closely related to psychological factors, including the personality of a patient with Type A behavior. Therefore, a behavior modification program to work on the patient’s emotional condition and Type A behavior is considered useful in reducing the risk factors for the recurrence of CHD (Sebregts *et al*, 2000; Johnston, 2000; Fava *et al*, 1991). Most therapy/prevention programs provide intensive lifestyle modification within a short period of time, from several weeks to several months (Aldana *et al*, 2006), with a focus on health education and behavior change (Lisspers *et al*, 1999), targeted to reduce Type A behaviors, smoking cessation, increasing exercise, stress management techniques (Bennett & Carroll, 1994) or anger management for the major emotional problems related to CHD (Ketterer, 1993). Most programs are in the form of cognitive education in group sessions (Allan & Scheidt, 1998). The effectiveness of the psychological therapy programs is usually determined by follow-up investigations 9 months (Sebregts *et al*, 2005) or 18 months (Rahe *et al*, 1976) later. There have been very few follow-up investigations after as long a term as five years. This article will report the results of a five-year follow-up study of the effect of Daoist Cognitive Therapy (DCT) on Chinese patients with Coronary Heart Disease (CHD).

De-seng Young, from Xiang-ya Medical School, Central South University, in China, and his colleagues developed Daoist Cognitive Therapy in 1994 as a culture-relevant specific therapy for the Chinese. It is a cognitive therapy based on Daoist philosophy. The ancient Chinese philosopher, Lao-

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Received December 5, 2011. Accepted for publication on March 27, 2012.

tzu, advocated the philosophy of Daoism (previously known as Taoism to Westerners). For the purposes of therapy, his philosophy was summarized into eight slogans for patients, namely:

- ⌘ *Benefit without harm to yourself as well as to others;*
- ⌘ *Do your best without competition with others;*
- ⌘ *Moderate desires and limit selfishness;*
- ⌘ *Know when to stop and know how to be satisfied;*
- ⌘ *Know harmony and put yourself in a humble position;*
- ⌘ *Hold to softness to defeat hardness;*
- ⌘ *Return to initial purity and original innocence;*
- ⌘ *Follow the rules of nature.*

The main thrust of the therapy is to help patients obtain cognitive insight and become “detached” (or relieved) from excessive desires and the endless drive for achievement. Therefore, the therapy is also called *chaotuo xinlizhiliao* in Chinese (literally, “detachment psychotherapy”; Young *et al.*, 2008).

In actual practice, the cognitive therapy was offered to a small group of patients in the format of group sessions twice a week for four weeks. The patients were also asked to write reports of their daily lives for examination and comments by the therapist on how they were trying to change their attitudes and behaviors according to Daoistic teaching. In addition, as a group, the patients were asked to practice *qigong* (meditation) and *taijiquan* (shadow boxing). This method of DCT was applied to patients with various disorders, such as depression and anxiety, but, clinically, it was considered more effective for elderly patients with Type A personalities who suffered from Coronary Heart Disease (Zhu, 2008). Therefore, a systematic investigation was designed to evaluate the long-term effects of the therapy.

METHOD

Subjects

All the patients included in the study were retirees of the Changsh Technology University and Hunan University who had suffered from Coronary Heart Disease and had received medical care at the university hospital during the one-year period from March 2003 to February 2004. They were randomly divided into two groups, a study group that received DCT and a control group that did not receive DCT. In order to investigate the long-term effect of DCT, a follow-up investigation was carried out five years later, in May 2009. Originally, there were 92 cases in the study group and 89 cases in the control group. From a demographic point of view, they were all retired faculty or administrative staff of the universities. In the study group, there were 49 men and 43 women, whose ages ranged from 56 to 81, with an average age of 70.8 ± 5.3 ; their years of education were from 11 to 15. In the control group, there were 46 men and 43 women, whose ages ranged from 59 to 82, with an average of 70.6 ± 5.5 ; their years of education were from 10 to 15. There were no significant differences between the two groups in terms of demographic background as examined by chi square (χ^2). The questionnaire included items for basic data such as: patient’s name, gender, age, marital status, occupation, and years of education, as well as clinical diagnosis, blood pressure, laboratory data of cholesterol, blood sugar, and medications he or she had been receiving.

Type A Behavior Scale

The Type A Behavior Questionnaire (TABQ) was used to assess the patients’ personalities and Type A behavior tendencies. The Chinese version of TABQ, revised in 1985 by the Chinese National Committee of Type A Behavior and Cardio Vascular Disease Investigation (Zhang, 1985) was applied for the investigation. The TABQ was composed of 25 questions for three scales: a Lie (L) scale for lie detecting; a Time and Hurry (TH) scale to measure the sense of time pressure; and a Competition and Hostility (CH) scale to measure competitiveness, ambition, and hostility.

Those who had high lie scores, namely of $L \geq 7$ were excluded. Those who obtained scores of $TH + CH \geq 28$ were considered positive for Type A behavior.

Mental Detachment Scale

The members of the research team designed this instrument specifically for the study (Zhou *et al*, 2002), to measure to what extent the subjects were able to follow Daoistic philosophy and become “detached” (or relieved) from excessive desires or expectations in their daily individual, family, and social lives. The questionnaire was composed of 12 items. Each item could be responded to by degree and scored from 1 to 4. A higher score indicated the subject was able to reach a higher degree of detachment from excessive desire – a mental achievement beneficial in counteracting a recurrence of CHD. The maximum score was 48.

Comprehensive Clinical Assessment

Clinical experiences indicated there was a need to assess comprehensively the degree of severity the CHD patients had experienced with various data, including clinical symptoms, signs, and EKG findings (Zhou *et al*, 2002). The degree of severity was divided into four groups, namely:

Obviously improved: Completely relieved from angina attacks, with normal EKG findings;

Improved: Clinical symptoms improved, with improved EKG findings, that is, no sign of cardiac anoxia as indicated by a low ST segment ($\geq 0.05\text{mV}$); improvement of T-wave; and without disturbed cardiac rhythms, such as premature beats;

No improvement: No improvement of clinical symptoms and EKG findings;

Worse: Worsening of clinical condition and EKG findings, with deterioration, that is, low ST segment ($\geq 0.05\text{mV}$); recurrence of cardiac infarct; or death due to CHD.

Based on these clinical assessment criteria, all the members of the study group and the control group were assessed and categorized into different levels of clinical condition. A researcher who had not been involved in the therapy of the study group carried out the assessment blindly.

Statistical Analysis

Statistical analysis was performed for comparison of all the data obtained for the study group and the control group, using the statistic program of SPSS13.0 (SPSS Statistics, 2005).

RESULTS Although all the patients, in both the study group and the control group, were advised by their attending physicians to continue out-patient follow-up care as needed, by the time the five-year follow-up investigation was launched, 36 cases from the study group and 40 cases from the control group were not being able to be contacted by the research team for investigation because they did not attend the out-patient any more then for various reasons. Only those who were still attending the out-patient clinic at the time of the follow-up study and available for the complete investigation were included for statistical comparison, that is, 56 cases in the study group and 49 cases in the control group. The scores from the Type A Behavior Scale and the Mental Detachment Scale, as well as the results of the Comprehensive Clinical Assessment and the death rates were all compared between the study group and the control group. The results were as follows:

Scores from the Type A Behavior Scale The Chinese version of the Type A Behavior Scale was administered to both the study group and the control group in the initially stage (prior to the DCT provided to the study group) and at the time of the five-year follow-up stage. As illustrated in **Table 1**, the case numbers with positive scores for Type A behavior in the study group decreased considerably, from 25 to 8, while, in the control group, they decreased from 19 to 15. The difference between the groups was significant $p < 0.05$, indicating that the study group had decreased its Type A behavior significantly five years after the DCT treatment.

Table 1 Comparison of the number of cases with positive scores for the Type A Behavior Scale between the study group and the control group

	Study group (n=56)	Control group (n=49)	χ^2
Initial stage	25 (44.6%)	19 (38.8%)	0.05
Five-year follow-up stage	8 (14.3%)	15 (30.6%)	4.22*

* $p < 0.05$

Scores of the Mental Detachment Scale The Mental Detachment Scale was administered at the initial stage and at the five-year follow-up stage to both the study group and the control group. As shown in **Table 2**, the results show that the score for the study group increased significantly, from 28.52 to 32.60, while the control group had hardly any change, from 28.81 to 27.0. The difference was very significant, $p < 0.01$, illustrating that the study group, which received DCT, was able to become less attached to excessive desire for competition and achievement.

Table 2 Comparison of the scores of the Mental Detachment Scale between the study group and the control group

	Study group (n=56)	Control group (n=49)	t
Initial stage	28.52±3.58	28.81±4.26	-0.38
Five-year follow-up stage	32.60±3.1	27.0±3.4	34.15**

** $p < 0.01$

Results of the Comprehensive Clinical Assessment The Comprehensive Clinical Assessment was conducted for both groups at the initial stage and at the follow-up stage. As shown in **Table 3**, by dividing the results of the assessment into four criteria, the difference between the groups was significant, $p < 0.05$, indicating that the study group, which had received DCT, had much more favorable clinical conditions than the control group at the time of the five-year follow-up.

Table 3 Comparison of the results of the Comprehensive Clinical Assessment by category between the study group and the control group at the five-year follow-up stage

	Study group (n=56)	Control group (n=49)	χ^2
Obviously improved	24	16	
Improved	20	13	
No improvement	5	9	
Worse	7	11	
Total effectiveness	78.6%	59.2%	4.64*

* $p < 0.05$

The number of deceased cases during the five-year follow-up period The household record was examined for all the case investigated at the initial stage to check any death occurred to them disregarding whether they were continuously attending the out-patient follow-up or not. As a result, it was revealed that, during the five-year follow-up period, four of the 92 cases in the study group were deceased, and 12 of the 89 cases in the control group. This is shown in **Table 4**. The number of deaths in the study group was significantly less than in the control group five years later. Based on the medial information available, two cases in the study group died due to CHD, and 10 cases in the control group. This shows that death due to the recurrence of CHD was greatly reduced in the study group compared with the control group.

Table 4 Comparison of the number of deceased cases in the study group and the control group at the time of the five-year follow-up study

	Study group (n=56)	Control group (n=49)	χ^2
All the deceased cases	4 cases (4.3%)	12 cases (13.5%)	4.69*
Death due to CHD	2 cases (2.2%)	10 cases (11.2%)	4.13*

*p<0.05

DISCUSSION As in other reports from around the world (Sebregts *et al*, 2000; Rahe *et al*, 1976) the present study indicates that suitable psychological and behavior rehabilitation programs are useful for patients with CHD. After all, psychological and social factors contribute to the occurrence of CHD, and proper psychological programs to help patients change their lifestyles and psychological conditions will reduce the risk of the recurrence of CHD. However, basic questions are: What kinds of psychological programs are most suitable and effective? and, How long will the effectiveness last?

The present study indicates that DCT is useful for Chinese patients, and has long-term effects, at least as observed at the five-year follow-up stage. DCT was developed by Chinese colleagues as an indigenous psychotherapy utilizing the ancient philosopher Lao-tzu's philosophy of life. In China, the thoughts and teachings of Confucius have been the mainstream in Chinese culture in the past. Confucianism maintains the importance of harmony in interpersonal relationships, cultivating benevolent love for others, and the potential for a person to become mature through self-cultivation. In contrast, Daoist philosophy stresses the importance of following nature, the virtue of doing nothing, and diminishing the desire for competition and achievement as a way of life (Young *et al*, 2008). In the past, Daoist philosophy was officially rejected from the mainstream, criticized for its passive attitude and negative view of life. But intellectuals have appreciated it, particularly when they reached old age, realizing that, after all, it is important to comply with nature and not be obsessed with achievement and ambitions. Therefore, Chinese patients who received DCT had a cultural affinity with Daoist philosophy, and the idea of detachment from the excessive desire for achievement worked well to counteract Type A behavior.

Besides the cognitive teaching in group sessions, patients were asked to write about their daily lives and examine their writings together with the therapist and their fellow patients in the group sessions, demonstrating how they were using Daoist philosophy to modify their views and cope with daily life problems. Most of the patients commented that the exercise provided the opportunity to examine and reinforce their cognitive and behavior changes. In addition, the patients, as a small group, were asked to practice together *qigong* and *taijiquan*, traditional meditation and relaxing exercises, to learn how to relax themselves mentally and physically, beyond the cognitive level. In other words, it is a combined therapeutic program, culturally familiar and indigenous for Chinese patients, which increases its effectiveness (Young *et al*, 2000).

It is rewarding to learn through the present study that the effectiveness of the therapeutic program had relatively long-lasting effects, with effectiveness continuing after five years. It would be desirable to compare more patients treated by (specific) DCT versus (nonspecific) ordinary supportive-educational and therapeutic programs to clarify the extent to which DCT has specific effects that help CHD patients. It would also be interesting to try DCT with non-Chinese patients to see the extent to which the cultural backgrounds of the patients influence the effectiveness of the DCT, which is heavily based on the ancient Chinese philosophy of mental detachment.

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