

QIGONG TREATMENT OF HEROIN ADDICTION

An Alternative Way for Detoxification

Ming Li, B.S. (1) Kevin Chen, Ph.D. (2) and Zhixian Mo, M.D. (3)

(1) Institute of Qigong Research, Guangzhou University Guangzhou, China 510091

(2) Department of Psychiatry, UMDNJ–New Jersey Medical School Newark, NJ, USA 07107

(3) Department of Chinese Medicine, The First Military Medical University Guangzhou, China 510515

ABSTRACT

Background: Qigong is one of the traditional Chinese medical systems believed to have special healing and recovery power. Millions of people practice Qigong in China and around the world to treat diseases ranging from hypertension to cancer and reportedly have success, but little scientific documentation could be found on Qigong and its effectiveness, and no literature can be found in Qigong's treatment of substance addiction, one of the most prevalent psychiatric disorders in modern society.

Methods:

Eighty six heroin addicts (all met DSM-III-R substance dependence criteria) in a mandatory drug treatment center were randomly assigned to one of the three groups: Qigong treatment group (N=34) who practiced Qigong 2 to 2.5 hours per day and received Qi adjustment from a Qigong master; medication group (N=26) who took detoxification pills (lofexidine-HCl, 0.2mg) by 10-day gradual reduction method, and no-treatment control group (n=26) who received basic care only, no medication or other treatment. Urine morphine test, ECG test, HAMA scale, and withdrawal symptom evaluation scale were measured prior and during the treatment for 10 days.

Results:

(1) reduction of withdrawal symptoms in

the Qigong group occurred much more rapidly. From day one, the Qigong group had significantly lower mean scores than other two groups ($p < .01$). (2) Both Qigong and medication groups had much lower anxiety scores than the control group ($p < .01$), and the Qigong group had significantly lower anxiety scores than the medicine group ($p < .01$). (3) All subjects had positive response to the urine test before treatment. On the third day, 50% of the Qigong group had negative urine tests, while only 23% in control group and 8% in medication group did so ($p < .01$). By the 5th day of treatment, all subjects in Qigong group had negative in urine tests, while all subjects in the control group did so by the 11th day, and medication group by the 9th day.

Conclusions:

The results of the study suggests that Qigong may be an effective alternative for heroin detoxification, and possibly for rehabilitation, although we cannot completely eliminate the possibility of placebo effect from the current study. The problems and implications of the study are discussed.

INTRODUCTION

In the past few years we utilized a simple form of Qigong to treat substance addicts in a series of clinical trials to test the effectiveness of Qigong therapy for drug detoxification. From March 1996 to January 1999, the Institute of Qigong Research at Guangzhou University, the First Military Medical University and the Second Workers' Hospital of Guangdong Province designed and conducted a series of studies on Qigong treating substance addicts in the Second Workers' Hospital of Guangdong Province and the Changzhou Drug Treatment Center of Guangzhou city in China. Following is a report of the third study conducted from December 1998 to January 1999 at Changzhou Drug Treatment Center in China.

METHODS

Subject Selection:

The following criteria were used to select the subjects in the treatment center:

(1) The patient must have had a reliable history of heroin abuse and dependence, used heroin for more than three months, and was still using before entering the treatment center.

(2) The patient must meet the DSM-III-R substance dependence diagnostic criteria, i.e., reported at least three heroin dependence symptoms.

(3) The patients' urine test for morphine was positive.

(4) It was less than 36 hours since last-time use of the substance.

Those patients who met the above criteria, had no infectious disease or sexually transmitted disease, had no other serious psychiatric disorders, and tested normal in blood, urine and liver/kidney function examinations, were selected as the subjects for the current study.

Group Assignment:

The pre-set ratio between the Qigong treatment group and the two control groups was 1.5 to 1. Qualified subjects were randomly assigned into one of the three different groups according to the order of their entering the treatment center. The 1.5 to 1 ratio was achieved in the following way: After assigning two subjects to each of three groups, the seventh subject always went to the Qigong group. The three designed groups in this study are: (1) The Qigong treatment group, where the subject (patient) practiced Qigong collectively for 2 to 2.5 hours a day, and meanwhile, accepted the emitted Qi or adjustment from a Qigong master for 10 to 15 minutes per day. When the Qigong master emitted Qi toward the patient, she/he usually kept a distance of 15 cm or more from the patient and never touched him. (2) The medicine treatment group (comparison group), which received

the regular detoxification pill (lofexidine-HCl, 0.2mg) with the 10-day gradual reduction method. (3) The non-treatment control group received no detoxification medicine nor Qigong treatment, except the emergency care and supplemental treatment for their acute physical symptoms. All medicines for acute symptoms were prescribed by medical doctors in the treatment center. The same care was also available to patients in other two groups on the basis of need.

Subjects in the three groups participated in the same amount of outdoor activities everyday. While the Qigong group practiced Qigong, the control group and medicine group would have some physical activities, or received necessary psychological counseling service provided by the treatment center medical staff. All services given to the control group were also available for the Qigong group and medicine group as needed. All subjects' blood pressure and pulse were monitored closely everyday.

Description of the Qigong Treatment:

We selected a relatively simple and easy-to-learn form of Qigong -- Pangu Qigong [11] for our experimental treatment. This form of Qigong takes about 25-30 minutes for a complete session of self practice. Different from many other forms of Qigong that require strong intention or consciousness, Pangu Qigong does not require strong intention or meditation, nor does it require skillful breathing, or for the practitioner to be a true Qigong believer. During the practice, the student (patient) simply listened to the pre-recorded audio instruction, and followed it through four simple stages: (1) Opening position: Stand naturally with two feet apart the same width as shoulders; arms bent at elbow with palms facing up; close eyes and completely relax. Repeat three times in head: "Take kindness and benevolence as its basis, take frankness and friendliness as its bosom." This is said to be the position to receive Qigong state which lasts for 6 minutes. (2) Rotated motion stage. Left side motion: both palms face each other with a distance of 15 to 20 centime-

ters in front of left waist with left palm face up; imagine holding a golden sun between you hands, intersect and rotate your hands clockwise for 26 times with the little finger turning before others. Right side motion: Flip the hands over to the right waist so that right palm now faces up; imagine holding a silver moon between your hands, intersect and rotate your hands counter-clockwise for 26 times. Middle motion: Rotate you hands until they face each other in front of chest, imagine kneading the sun and the moon together, then intersect and turn hands clockwise in a forward direction for 26 times. Repeat the three motions in sequence a total of three times, which is the first level of exercise. (3) Deep breathing: Once you complete three sets of motions, straighten and slowly draw open your hands in front of your chest, while at the same time breathing deeply through your nose and imagine absorbing energy through your body (skin). After fully expanding your arms, embrace the universe with your hands before you; do this by exhaling slowly while drawing your hands back in front of chest. Following the closing motions, place your hands before your chest, forming and holding the chrysanthemum hand seal. Repeat the deep-breath open-close drawing three times. This is called level two exercise. Repeat the level one and level two exercise three times, then the motion stage is completed. (4) Closing position: after finishing the above level one plus level two exercise three times, draw hands back to the waist with palm facing up like the opening position, and say in your heart: "Speak with reason, treat people with courtesy, move others with emotion, and act with result." This concludes the exercise routine.

Subjects

A total of 86 heroin addicts who were admitted to the treatment center as in-patient for at least one month and met the above selection criteria participated in the study. All of them were male. Among them, 79 used

heroin by injection and 7 by sniffing. Their ages ranged from 18 to 52 with a history of heroin use from 0.5 to 11 years. The amount of heroin used last time ranged from 0.1 to 2.5 grams. Table 1 presents the detailed demographic and drug use infor-

Table 1. Descriptive Statistics of the Subjects by Group

	Control Group (n = 29)	Qigong Group (n = 26)	Medicine Group (n = 31)
Age (M ± SD)	32.8 ± 6.1	32.5 ± 5.5	31.8 ± 5.9
Years of drug use (M ± SD)	5.38 ± 3.5	5.45 ± 3.7	5.53 ± 3.5
Grams of heroin used in one week before treatment (M ± SD)	0.99 ± 0.2	0.95 ± 0.6	1.14 ± 0.5
Days from last use to admission to the treatment (M ± SD)	0.77 ± 0.1	0.45 ± 0.4	0.4 ± 0.2
Days from last use to admission to the treatment (M ± SD)	25.2 ± 9.3	25.1 ± 3.5	35.9 ± 1.5

Note: M = mean score; SD = standard deviation

mation for the three randomly assigned groups. There is no significant difference among the three groups in any of the categories in the baseline data.

All the subjects were in-patients for the one to three months of mandatory treatment in the Changzhou Drug Treatment Center. Usually a well-designed clinical trial will try to implement the double-blind design in order to assure the validity and reliability and to eliminate the potential placebo effects. In our case, we tried to have all the medical staff involved in evaluation or examination blind at all time, as described previously. The participating subjects did not know that there were other alternative methods (or groups) available for the treatment due to their separate living arrangements.

RESULTS

Effects on Withdrawal Syndrome

During the ten days of detoxification, the mean scores of withdrawal symptoms all started decreasing gradually. However, inspection of the different curves during the treatment finds that the reduction in the Qigong group occurred much more rapidly than the other two groups. In fact, from day one, the mean score of withdrawal symptoms in the Qigong group was significantly lower than the other two groups ($p < .05$ by student t test). By day 7, all 34 cases in Qigong group reported a cease

of withdrawal symptoms (mean score = 0) while members of the other two groups still reported some symptoms at the end of the ten-day treatment.

Effects on Anxiety Symptoms

There were no significant differences in the mean anxiety score measured by Hamilton Anxiety Assessment among the three study groups before treatment (the first evaluation). However, after the treatment began, the differences became statistically significant when measured on day 5 and day 10 ($F(2,83)=15.1, p < .001$). Multivariate repeated measures analysis of variance shows that both the Qigong and medicine groups had much lower mean scores of anxiety than the control group (anxiety score by group interaction term $F(1,50) = 3.95, P < .05$ and $F(1,58) = 31.3, p < .001$, respectively). Meanwhile, the change in the Qigong group was significantly different from that in the medicine group (anxiety score by group interaction $F(1,58) = 12.6, p < .001$) (see Table 2)

Day in Treatment	Control Group (n=26)	Qigong Group (n=34)	Medicine Group (n=26)
0 (pre-treatment)	35.0 ± 4.7	37.4 ± 7.5	33.5 ± 8.5
5 th day	21.3 ± 11.4	8.2 ± 4.9 **	13.6 ± 6.4 **
10 th day	7.3 ± 18.2	0.7 ± 1.0 **	5.3 ± 3.1 *

Note: * $P < .05$; ** $p < .01$ in comparison with the control group.

According to the staff at the treatment center, it was not unusual that the patients could not fall into deep sleep at all for 10 to 15 days after they first came for treatment. However, among the Qigong treatment group, most patients could go to sleep after 2 to 3 days of Qigong practice. The medical records show that, after six days, 67% subjects in the Qigong group went from getting no sleep at all to getting normal sleep (5+ hours per night). The similar proportion was observed in medicine group, while only 7.6% subjects in control group did so.

Urine Morphine Test

All subjects had positive responses in the

urine morphine test before the treatment since it was one of the selection criteria. On the third day of treatment, 17 out of 34 subjects (50%) in the Qigong group became negative in the urine morphine test, while only 6 subjects (23%) in the control group, and 2 subjects (8%) in the medicine group did so ($p < .01$; see Table 3). By the 5th day of treatment, all 34 subjects in the Qigong group became negative in urine tests, while the control group did so by the 11th day, and the medicine group by the 9th day. There was no significant differences between the control group and the medicine group in terms of urine morphine test.

DISCUSSION

The treatment method explored by this study is a new experimental method for detoxification, which seems to be easy to learn and so far appears to be relatively reliable. We have not found any side effects or risk from this therapy so far. This method may have some significance and wide applications in treating substance addiction if we conduct additional well-designed control studies. Our study showed that Qigong practice may accelerate the body detoxification, reduce the withdrawal symptoms, and increase the recovery speed. As we see in the study, all subjects in the Qigong group became negative in urine morphine tests within 5 days, while other two groups did so in twice the amount of time (refer to Figure 1). From the second day of treatment, the Qigong group reported significantly fewer withdrawal symptoms than other two groups; and by the 5th day, the mean withdrawal symptoms in the Qigong group was close to zero, which was significantly lower than the score of other two

groups (44.4 and 9.9 respectively). Meanwhile, subjects who practiced Qigong had a much lower rate of anxiety, craving, and insomnia.

Days in Treatment	Control Group (n=26)		Qigong Group (n=34)		Medicine Group (n=26)	
	N	%	N	%	N	%
0 (pre-treatment)	6	23%	2	6%	1	4%
1	0	0%	1	3%	0	0%
2	0	0%	2	6%	1	4%
3	0	0%	17	50%	0	0%
4	1	4%	34	100%	3	12%
5	2	8%	34	100%	3	12%
6	2	8%	34	100%	3	12%
7	3	12%	34	100%	2	8%
8	2	8%	34	100%	2	8%
9	2	8%	34	100%	2	8%
10	2	8%	34	100%	2	8%
11	2	8%	34	100%	2	8%

Note: * $p < .05$; ** $p < .01$ compared to control group; # $p < .01$ compared to medicine group.

The study was intended to examine the overall effects of Qigong therapy on treating substance addiction, from detoxification to rehabilitation. The results from above data show some effectiveness of Qigong therapy in detoxification for the first ten days of treatment. During the entire three months of treatment, there was no difference in terms of relapse between Qigong group and other group because there was no way for the subjects to access any substance in such a mandatory treatment center with the presence of police.

How could Qigong treat substance addiction? The mechanism behind what we observed here may be a question that needs more basic scientific research in the future. As far as we understand, most drug addictions are considered a disorder of the brain, or some form of brain blockage of normal neurological function, such as the action of dopamine.[13, 14] Practice of Qigong has been found to be associated with the increased blood flow in the brain, increased oxygen metabolism in the body, and increased bio-electric currency in the brain [3, 15]. When a person enters into a Qigong state, the neurons in the deep layers of the cerebrum also enter into an excited state. As shown by electro-encephalographic obser-

vations, in a Qigong state the excited brain cells in the deep layers of the cerebrum generate relatively strong bio-electric currents [15] Meanwhile, the increased oxygen metabolism and extra vital energy gained through Qigong practice may also supply the body with extra power needed in detoxification, drive the toxic elements out of body, and remove the dysfunctional effects produced by substance. Of course, these assumptions need more sophisticated basic scientific research to verify and to investigate further in the future.

One of the big problems in this study is lack of a completely compatible control. Ideally it would be great to have a control group that practice something that appears similar to but has nothing to do with Qigong, and to be treated by a sham master so as to effectively eliminate possible placebo effect. It is relatively easy to have a sham master to perform treatment; however, it will be very difficult to design something similar to Qigong that has no Qigong effect at all. The reasons we had problems in designing such a control group can be summarized as the following: (1) The simplest form of Qigong is just sitting and breathing naturally without thinking of anything (2) The health benefit of Qigong practice is not the same as regular physical workout or exercise, but a specific mental and physiological state that the practitioner is experiencing. Unless we can objectively monitor the physiological and mental states of the subjects, it is very hard to separate the so-called placebo effect from the real Qigong effect, which could be the combination of neuro-transmitter changes, somatic effects, increased energy flow, relaxation induced immune modulation, and psychoneuroimmunology. (3) The group practice of Qigong is said to produce strong “Qi field” that may generate or accelerate the health benefit for those who did not even practice Qigong but were in the field. (4) Unlike psychotherapy, most Qigong therapy (self practice) does not involve in the patient-therapist interaction, but involves the positive belief in the practice itself, or

positive mental state developed during the practice. This could easily be achieved in any form of control group, too, if they are told that they are practicing an effective traditional Qigong.

In other words, we have to acknowledge the possibility that some of the effects observed in the Qigong group may be confounded with the potential placebo effects or psychological hints that has nothing to do with

It appears that Qigong therapy may be a useful alternative method for effectively treating substance addiction

Qigong per se, but the result of being in the “Qigong group.” Therefore, future studies need a better design with regard to a compatible control group that can eliminate the potential placebo effect. However, given the significant differences between the Qigong group and the established medicine group, we cannot attribute all the Qigong effects observed in the study to the placebo effect, since the effectiveness of the traditional medical detoxification procedure was already well known and widely used in the treatment center. It appears that the Qigong practice achieved the same or even better results in detoxification than the medication group; meanwhile, Qigong practice has no known side effects while most methods of medication detoxification have some forms of side effects. Given the amount of difficulties in designing a more appropriate control group, the current study should be considered as the beginning of a long exploration process. We will attempt in the future studies to separate the real Qigong effect that presents only in Qigong state from the usual placebo effect that presents in any clinical trial.

This study had another problem with its research design, which was mixing the effect of self practice and the effect of external Qi emission. Since using Qigong therapy to treat addiction was a new research area, we attempted to get the maximum effects of Qigong practice, and reduce the patients painful experience during detoxification process. This is why all subjects in

Qigong group not only practiced Qigong but also received Qi adjustment from a Qigong master. Therefore, in future studies, we will try to separate the two groups as different treatment conditions to examine the degree of effects due to the external Qi emission.

In addition, some subjects initially had a very hard time practicing Qigong two hours a day. It is indeed boring to practice the simple Qigong exercise for 4 to 5 sessions a day, 30 minutes each session. If this study were not done in a mandatory treatment center, some subjects would not

practice Qigong for the required amount on their own, therefore, might not have achieved such a good result. It may be, therefore, difficult to persuade subjects in general to practice Qigong on the daily basis for the purpose of treating addiction in the first place, unless we can show them the scientific evidence like the current study.

In short, different from all other known methods of treating substance dependence, Qigong therapy seems to have the following characteristics: self-healing without medicine, engaging both mind and body, combining detoxification with craving reduction, shorter detoxification period and a less painful process, based on these results. It is assumed that Qigong should also significantly reduce the relapse rate if the subject continues practicing Qigong after returning to the community. It appears that Qigong therapy may be a useful alternative method for effectively treating substance addiction if we can utilize some low side-effect medicines at the beginning to help relieve some physiological pain from withdrawal, and tell patients more about why and how Qigong can work for them. With better physiological and psychological preparation, and a better control group, Qigong therapy appears to have great potential to achieve ideal results in both detoxification and rehabilitation for drug addiction.

Kevin Chen can be contacted at:
chenke@umdnj.edu