

Dance of energy and breath: “Qigong” and diabetes

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ABSTRACT

As in many chronic diseases, in Type 2 diabetes, various complementary and alternative applications are aimed to reduce side effects and to support treatment. One of these practices is qigong exercises whose name is not heard much yet in our country. Qigong is a kind of exercise based on ancient Chinese medicine and aimed at opening energy channels in the body. The qigong consists of active and passive exercises aimed at protecting and/or healing from diseases by establishing energy balance in the body through meditation, breath control, and bodily exercises. In the review of the foreign literature conducted, fewer scientific studies have been found on therapeutic effect of qigong exercises in situations such as providing metabolic control and reducing anxiety, stress, and depression in diabetic patients. When the educative role of nurses is considered, the adequate knowledge of nurses about chronic diseases and care is important. For this reason, the study was compiled to be informative about the effects of qigong in the treatment of diabetic patients and to assist in further studies.

Key words: Complementary and alternative medicine, diabetes, exercise, nurse, qigong

INTRODUCTION

Despite the successful and rapid changes observed in the diagnosis, treatment, and care of chronic diseases, prolonged treatment and lack of full recovery increase the insecurity of patients with medical treatment. However, factors such as high cost of current treatments, reduction of possible side effects of medical treatment, elimination of existing symptoms, increase of body defense, and strengthening of the immune system lead the patients to use complementary and alternative medicine (CAM). Patients are increasingly interested in using CAM because of their desire to feel better psychologically and their desire to take more control and responsibility in their own health and treatment.^[1-3]

CAM medical concepts based on ancient Chinese and Ayurvedic medicine are often under a heading although they are different from each other.^[1] Complementary medicine refers to the treatment methods used for scientific medicine, and alternative medicine refers to the treatment methods that have not been scientifically proven effective, taking place in modern medicine. According to the WHO, CAM is defined as treatment approaches other than modern and scientific treatments.^[4] In the United States, the National Center for CAM defines CAM as products, practices, and health-care systems that are not considered part of traditional medicine and divides these practices into three categories.

1. Natural products: Vitamins, minerals, and probiotics.
2. Body and mind practices: Acupuncture, relaxation techniques, tai chi, qigong, therapeutic touch, hypnotherapy, and motion therapies.
3. Other complementary health approaches: The applications of traditional healers, Ayurveda, homeopathy, and naturopathy.^[1,3,5]

In the National Health Interview Survey conducted in 2002–2012, 10 most commonly used complementary health approaches among adults were described: Natural products (other than intensive vitamin and mineral use) (17.7%), Yoga, TaiChi or qigong (10% 1), chiropractic or osteopathy manipulation (8.4%), meditation (8%), massage (6.9%), special diets (3%), homeopathy (2.2%), progressive relaxation exercises (2.1%) and imagination are the most used mind-body approach among adults. Other mind-body practices include acupuncture, relaxation techniques (respiratory exercises, imagination, and progressive muscle relaxation), tai chi, qigong, therapeutic touch, hypnotherapy, and motion therapies (such as Feldenkrais method, Alexander technique, Pilates, Roling structural integration, and Trager psychophysical integration).^[4]

It was stated that CAM methods have been extensively used to heal symptoms in patients with diabetes, cancer, and cardiovascular disease.^[2,4,6] Diabetic patients in particular use the qigong method to manage diabetes or improve overall health status. For this reason, the study was compiled to be informative about the effects of qigong in the treatment of diabetic patients and to be of assistance to subsequent studies.

RESEARCH DESIGN AND METHODS

In October 2017–February 2018, Google Academic, ScienceDirect, Academic Search Complete (EBSCOhost), and PubMed databases were scanned to reach research that revealed the impact and importance of qigong exercises in Type 2 diabetes. While scanning, the keywords “qigong,” “diabetes,” and “adult” were used in English. As a result of this survey, 36 studies published between 2000 and 2017 have been reached. Researches related to diabetes types and other chronic diseases and investigations

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on pediatric patients and rats have not been included in the sources. Based on a total of 23 experimental, semi-experimental, cross-sectional, and descriptive studies which fit the criteria, the compilation was conducted.

QIGONG

Qigong is a Chinese medicine based on the "YinYang" theory that has been practiced in the east for many years to improve health, prevent disease, and prolong lifespan.^[2-4,7]

Qigong is formed by putting together the words "qi" and "gong." "Qi" means life energy or life force, and "gong" means the working skill of qi. The human body contains an active energy network of life energy. As a result of congestion in the energy channels, qi cannot flow freely and disease occurs, so qi energy must flow actively in the channels.^[7-10]

Qigong is a traditional method of regulating the energy balance of the body, which consists of the combination of movement, meditation, and respiration techniques.^[3,7,9,11] The qigong consists of active and passive exercises to prevent and/or heal diseases by establishing energy balance in the body through meditation, breath control, and bodily exercises (spiral and circular musculoskeletal movements similar to slow dance movements). Qigong, a "moving meditation" model, can be regarded as an ancient practice of vital energy or the purification of life force for optimal health and personal development.^[3,10-13]

Medical qigong is defined as authentic qi (life energy) system which empowers the self-healing (inner qigong) and facilitates the health of others (external qigong). Inner qigong is an individual method using movements, hand positions, and breathing techniques to improve mental and physical health. In external qigong, the practitioner determines the discomfort of the person to be treated using traditional Chinese medical techniques. Then, through qigong techniques, the practitioner heals the obstacles affecting the patient's energy flow to compensate for Qi blockages or to balance the Qi flow in the patient.^[10,11]

It is stated that qigong administration improves tissue recovery by increasing blood circulation, enhances cardiac output, reduces arterial blood pressure, and improves lipid profiling. In recent years, researches showed that qigong has healing effects in diabetes prevention and control, and therefore, the interest in qigong is greatly increased.^[2,4,7,9-19]

DIABETES

According to the International Diabetes Federation, there are 415 million diabetics in the world and it is estimated that there will be more than 642 million diabetics by 2040. Approximately 90% of all diabetic cases are Type 2 diabetes.^[7,10,11]

In Type 2 diabetes which increased dramatically due to obesity and sedentary life, morbidity and mortality rates are high. Complications such as hypertension, cerebrovascular disease, cardiovascular disease, neuropathy, and renal failure due to Type 2 diabetes threaten global health.^[7,10,11]

In the treatment of the disease, metabolic control of insulin is usually achieved using oral antidiabetic drugs. However,

in spite of medical treatment, the patients tend to use CAM because of the symptoms and complications they experience. When the literature is examined, it is seen that diabetes patients have higher complementary and alternative treatment use rates than other patient groups.^[7,11] Reasons such as reducing side effects, being cost-effective, easily accessible without prescription, and increasing compliance with drug treatment are among the reasons for CAM use in diabetic patients.^[7,18]

Recent studies showed that regular diet and exercise programs, combined with medical therapy, provide insulin metabolic control, positively affecting the formation and complications of diabetes.^[5,15] Qigong's-specific form of medical qigong is known to be effective in preventing Type 2 diabetes, improving disease-related complications, and improving quality of life by providing glucose control similar to other exercise forms. According to Chinese medicine, qigong is providing diabetes control by increasing skeletal muscle glucose uptake and improving the movement of pancreatic beta cells. In addition, qigong is said to be effective on weight loss, cholesterol control, and insulin resistance. For this reason, qigong exercises compatible with pancreas and liver are needed.^[3,7,9,11,13]

Yi ren medical qigong (YRMQ) is used especially in patients with diabetes, and the most current definition is "authentic qi production and management." Yi ren qigong includes specially designed exercises to help stabilize the energy system. These are as follows:

1. Parasympathetic nervous system strengthening exercise
2. Excessive liver energy transmitter exercise
3. Pancreas strengthening exercise
4. Exercise compatible with liver and pancreas
5. Internal power plant (Kidney) exercise activation.

YRMQ can be considered static and dynamic. "Yi" represents the different laws of energy interaction and change in the natural world, and "ren" represents human. The increased qi sound at the end of the application stimulates self-awareness against internal energy conditions and nourishes and heals internal organ systems. At the beginning of the exercise, movements are more dynamic, and after the energy is activated, the exercises become more static.^[10,11] Qigong affects parasympathetic activity, induces relaxation and positive emotions, and increases the quality of life.^[3,19-21]

In the literature review, many foreign studies have been found which examine the effect of Qigong on Type 2 diabetes. Results of these studies are shown in [Table 1].^[7,8,19-23]

CONCLUSION

There is a growing body of research to critically evaluate the effectiveness of qigong exercise in improving and maintaining physical, mental, and cognitive health, together with the use of qigong. When the studies are examined, it is seen that the medical qigong treatment has a positive effect on interventions in various chronic diseases and that qigong techniques have no negative effect on health. It is observed that medical qigong, a specific form of qigong, is also effective in preventing, healing, and controlling complications associated with Type 2 diabetes.

Table 1: Summary of qigong studies reviewed

Author (date)	Study type/ number	Experiment group/ qigong type and application period	Control group	Parameters	Conclusion
Wang <i>et al.</i> (2007)	RCT/79	60 min qigong daily for 6 months (Baduanjin) (n=40)	Standard (n=39)	HbA1c	There was a significant difference between experimental and control groups ($P<0.01$).
Li (2007)	RCT/79	60 min qigong daily for 6 months (Wu qin xi) (n=40)	Standard (n=39)	Blood viscosity	There was a significant difference between experimental and control groups ($P<0.01$).
Jeong (2007)	RCT/50	40 min qigong twice a week for 10 weeks (Taegeuk) (n=25)	Standard (n=25)	FPG, 2 h PG, HbA1c, insulin sensitivity	There was no difference in both groups; it was concluded that the 10-week period was short.
Zhao (2004)	RCT/38	60 min qigong twice a week (Anmo gong)	Standard	FPG, 2 h PG	Differences were determined before and after the procedure in the experimental group ($P<0.01$). There was a significant difference between experimental and control groups ($P<0.05$).
Liu	RCT/41	Qigong practice for 12 weeks	Standard	HbA1c, insulin resistance, FPG, insulin, 2 h PG, body weight, waist circumference, leg strength	In all parameters, the differences between the groups in favor of the experimental group were found to be statistically significant ($P<0.01$).
Liu <i>et al.</i> (2008)	Single group/11	Qigong for 1–1.5 h per week for 12 weeks (Tai chi)	None	HbA1c, Insulin resistance, BMI, waist circumference, blood pressure	BMI, waist circumference, systolic and diastolic blood pressures, HbA1c ($P<0.01$), and insulin resistance ($P<0.05$) were found to be statistically significant in favor of the experimental group.
Fang <i>et al.</i> (2008)	RCT/52	Qigong for 4 months (BaDuanJin)	Standard	HbA1c, anxiety, depression and hostility scale	Anthropometric, depression, and hostility scale SCL-90 averages were determined in favor of the experimental group after the intervention ($P<0.05$).
Sun <i>et al.</i>	RCT/32	30 min twice a week, total 60 min (qigong) (YRMQ) (n=11)	Standard (n=10)	FPG, HbA1c, Insulin resistance	In all parameters, the difference between experimental and control group ($P<0.01$) was determined.
Putiri <i>et al.</i>	RCT/32	30 min qigong twice a week for 12 weeks (YRMQ) (n=7)	Standard (n=8)	Perceived stress and back depression scale	The mean scores of perceived stress and depression scale were found to be statistically significant ($P<0.01$) in favor of the experimental group after the intervention.

HbA1c: Hemoglobin A1c, FBG: Fasting blood glucose, BMI: Body-mass index, 2 h PG: 2-hour plasmaglutucose. YRMQ: Yi ren medical qigong

In the metabolic control of diabetes, exercise is known to be an indispensable recipe. For this reason, qigong, which can be counted as a kind of physical activity, is thought to be important in the control of diabetes, individual care practices, and lifestyle changes.

In the literature review, a small number of randomized controlled trials on qigong's effects on patients with Type 2 diabetes have been found. Nevertheless, no literature has been found to determine the effect of qigong on diseases in our country. It is very important that the nurses who spend the most time with patients to determine the application status of methods such as qigong and to have knowledge about the effectiveness and reliability of these methods. For this reason, nurses should carefully question

individual care practices such as CAM in diabetic patients as well as in other patient groups.

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