NOTICE: WARNING CONCERNING COPYRIGHT RESTRICTIONS

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted material.

Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specific conditions is that the photocopy or reproduction is not to be "used for any purpose other than private study, scholarship or research." If a user makes a request for, or later uses, a photocopy or reproduction for purpose in excess of "fair use," that user may be liable for copyright infringement.

This institution reserves the right to refuse to accept a copying order if, in its judgment, fulfillment of the order would involve violation of copyright law, 37 C.F.R. §201.14

PLEASE NOTIFY US WITHIN 48 HOURS IF YOU NEED US TO RECOPY/RESEND
The Benefits of Medical Qigong in Patients With Cancer: A Descriptive Pilot Study

Janine Overcash, PhD, GNP-BC, Kathryn M. Will, MSW, LISW-S, and Debra Weisenburger Lipetz, BFA

Medical Qigong (MQ) is a mind-body exercise that includes movement and meditation and is beneficial in reducing high blood pressure, high cholesterol, anxiety, stress, pain, and incidence of falls. The purpose of the current study was to determine whether patients with cancer and survivors who participated in an MQ class experienced a change in fatigue, depression, and sleep from a preintervention evaluation to a postintervention evaluation. Participants were patients diagnosed with cancer who participated in MQ classes. Some were actively undergoing cancer treatment (e.g., surgery, hormone therapy, radiation therapy, chemotherapy) and some were receiving no treatment. Patients diagnosed with cancer and enrolled in an MQ class were invited to participate. A packet of surveys was completed before the first class and before the final class. Scores showed a reduced depression score after completing the five-week MQ course. Those findings indicate that MQ is helpful in reducing some of the problems associated with cancer and cancer treatment.

A cancer diagnosis can have a great impact on overall quality of life (QOL) (Sun et al., 2012). Symptoms such as fatigue, insomnia, and anxiety commonly are reported as inter-related issues for patients with cancer (Jim et al., 2011). About 85% of Americans have used complementary or alternative medicine (CAM) to alleviate symptoms from cancer and its treatment (Cassileth & Deng, 2004). Medical Qigong (MQ), a type of CAM that includes movement and meditation, reduces anxiety, stress, and pain, as well as high blood pressure, cholesterol, and incidence of falls (Jahnke, Larkey, Rogers, Entier, & Lin, 2010; Ng & Tsang, 2009; Rogers, Larkey, & Keller, 2009; Skoglund & Jansson, 2007; Skoglund, Josephson, Wahlstedt, Lampa, & Norbäck, 2011). The authors sought to identify options for symptom relief for patients with cancer and survivors. Therefore, the purpose of the current study was to determine if scores on sleep quality, depression, and fatigue improved after the completion of a five-week MQ class. The type of Qigong used for this project was Zhineng Qigong.

Background

Qigong

Qigong was developed 5,000 years ago as a fundamental traditional Chinese medicine, and it uses physical activity and meditation to harmonize the body and spirit (Peiwen, 2003). Qigong theorizes that illness results from a blockage of energy flow in the human body. A free flow of Qi (i.e., energy) improves health and prevents disease (Chen & Yeung, 2002). Western medicine has compared Qigong to the relaxation response theory (Benson & Klipper, 1975) and the theory of psychoneuroimmunology (Ader, Cohen, & Felten, 1995).

Qigong is a generic term that encompasses thousands of forms of exercise, such as martial arts, meditation, and MQ. What differentiates Zhineng Qigong from other forms of MQ is the integration of the Qi. Through the practice of Zhineng Qigong, an exchange occurs between nature’s Qi and human Qi that results in a cleansing of the physical body and enhanced mental clarity (National Qigong Association, 2013).
The Benefits of Medical Qigong in Patients With Cancer: A Descriptive Pilot Study

Janine Overcash, PhD, GNP-BC, Katelyn M. Will, MSW, LISW-S, and Debra Weisnanger Lipetz, BFA

Medical Qigong (MQ) is a mind-body exercise that includes movement and meditation and is beneficial in reducing high blood pressure, high cholesterol, anxiety, stress, pain, and incidence of falls. The purpose of the current study was to determine whether patients with cancer and survivors who participated in an MQ class experienced a change in fatigue, depression, and sleep from a preintervention evaluation to a postintervention evaluation. Participants were patients diagnosed with cancer who participated in MQ classes. Some were actively undergoing cancer treatment (e.g., surgery, hormone therapy, radiation therapy, chemotherapy) and some were receiving no treatment. Patients diagnosed with cancer and enrolled in an MQ class were invited to participate. A packet of surveys was completed before the first class and before the final class. Scores showed a reduced depression score after completing the five-week MQ course. Those findings indicate that MQ is helpful in reducing some of the problems associated with cancer and cancer treatment.

Background

Qigong

Qigong was developed 5,000 years ago as a fundamental traditional Chinese medicine, and it uses physical activity and meditation to harmonize the body and spirit (Petten, 2005). Qigong theories that illness results from a blockage of energy flow in the human body. A free flow of Qi (i.e., energy) improves health and prevents disease (Chen & Young, 2002). Western medicine has compared Qigong to the relaxation response theory (Benson & Klipper, 1975) and the theory of psychosomatic medicine (Adler, Cohen, & Pelikan, 1995). Qigong is a generic term that encompasses thousands of forms of exercise, such as martial arts, meditation, and MQ.

What differentiates Zhineng Qigong from other forms of MQ is the integration of the Qi. Through the practice of Zhineng Qigong, an exchange occurs between nature’s Qi and human Qi that results in a cleansing of the physical body and enhanced mental clarity (National Qigong Association, 2013).

MQ includes movement, controlled breathing, postures, and meditation, and can be practiced as a part of a class or alone. Very few risks are associated with MQ, and the potential benefits can have a positive effect on the physical and mental health of patients with cancer.

MQ's ability to relieve symptoms such as depression and fatigue may be from an integrated hypothalamic response resulting in hormonal changes of the sympathetic and parasympathetic nervous system (Tsang, Lee, Au, Wong, & Lai, 2013). Qigong is a well-developed system of theory and practice that incorporates highly technical improvements and visualization techniques with the intention of stress reduction. Qigong was used from 1980–1997 for a large Chinese government study that supported widespread use to improve health and QOL (Spie, Carlson, Goody, & Amin, 2000). MQ is used with activities such as yoga and tai chi in supportive oncology research and practice (Jahasky, Larkay, Rogers, Etter, et al., 2010; Oh et al., 2011, 2012).

Benefits of Qigong

Health benefits such as decreases in pain, insomnia, and depression are associated with practicing MQ (Froushakshk & Stommel, 2010). MQ is practiced by all ages, ethnicities, and genders. Several studies have focused on older adults who routinely practice MQ (Jahasky, Larkay, & Rogers, 2010). Steedman, Lindstrom, Grashouse, & Buelu, (2005) as well as young, college-aged athletes (Wright, Jones, Alton, Bortov, & Ones, 2011). MQ improves perceptions of sleep quality, chronic fatigue, and vitality (Cranke, Turner, Zammit-Macape, & Lee, 2009; Jahasky, Larkay, & Rogers, 2010). Gait speed and functional reach also are improved as a result of the regular practice of MQ (Wolf et al., 2000). Anxiety is reduced by 12% when MQ is practiced for 30 minutes (Johansson & Hassenstein, 2008) and 26% when practiced for 60 minutes (Lee, Jeong, et al., 2005). Studies have found that MQ increases oxygen production, reduces inflammation, and enhances the immune response by increasing monocyte and lymphocyte numbers (Lee, Huh, et al., 2003; Lee, Jeong, et al., 2005). MQ improves IQ, Rys, & Moon, 1984). Cortisol levels tend to decrease over time when MQ is practiced for 12 weeks (Tsang, Tsang, et al., 2013). Mood and fatigue also have been shown to be positively affected as a result of MQ; however, many studies included small sample sizes, so more research is necessary (Dubois, Kirshbaum, & Choi, 2012; Oh et al., 2011).

Medical Qigong in Patients With Cancer

Several studies of MQ have been performed specific to patients with cancer. MQ has been found to enhance cognitive function as evidenced by increased Functional Assessment of Cancer Therapy-Cognitive Function subscales and European Organization for the Research and Treatment of Cancer scores (Oh et al., 2012). Exercise (e.g., walking, cycling, Qigong, resistance training, strength training, yoga) for patients diagnosed with cancer is beneficial in QOL domains (e.g., fatigue, body image, pain, anxiety, body image, sleep) (Mohan, Schroer, Gelige, et al., 2012). Depression, anxiety, and complaints of fatigue are reduced when patients practice MQ (Oh et al., 2010; Wang & Ye, 2002). For patients receiving chemotherapy, cognitive function is improved and Creative protein markers are reduced (Oh et al., 2012). When practiced regularly for 21 days, MQ also reduces leukopenia in patients with breast cancer receiving chemotherapy (Velch, Lee, Chen, & Yeh, 2010). Symptom distress is reduced specific to unwillingness to live and hopelessness in patients receiving chemotherapy (Lee, Chen, & Yeh, 2006). In addition to psychosocial and physical benefits, survival benefits are attributed to MQ, determined in a systematic review of controlled clinical trials (Lee, Chen, Sancier, & Frist, 2007). The current study adds to the literature because of the participation from all types of patients with cancer and survivors and those in active treatment (e.g., chemotherapy, radiation therapy, hormone therapy) and those no longer receiving treatment.

Methods

The current study used a descriptive pre- and post-test design. Patients with cancer who attended MQ classes during 2011 and 2012 at the Ohio State University Comprehensive Cancer Center—Arthur G. James Cancer Hospital and Richard J. Solove Research Institute were invited to participate in the study. The 38 participants were patients with cancer and survivors who were either actively undergoing some type of cancer treatment (e.g., surgery, hormone therapy, radiation therapy, chemotherapy) or not undergoing treatment. Exclusion criteria included participants who were less than 18 years old and able to speak and read English. Exclusion criteria included participants cognitively unable to consent, understand English, or understand the consent process.

Instruments

The Brief Fatigue Inventory (BFI), an acceptable subjective tool for patients with cancer, was used to assess fatigue (Mendola et al., 1999). This tool was chosen because it has a minimum score of 0.8 to 1.0 (Thorpe et al., 2000) and a numerical rating from 0–10 that is assumed to calculate a global score. A higher score indicates worse fatigue. Three items define the severity of fatigue, and the remaining items consider the extent to which fatigue affects daily activities. Construct validity assessed for the nine items ranged from 0.81 (usual fatigue) to 0.92 (activity). Construct validity was evaluated with the

TABLE 1. Sample Characteristics (N = 38)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>X</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>57.6</td>
<td>11.3</td>
<td>16-75</td>
</tr>
</tbody>
</table>

Characteristics: n

<table>
<thead>
<tr>
<th>Treatment type</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>No treatment</td>
<td>17</td>
</tr>
<tr>
<td>Chemotherapy</td>
<td>17</td>
</tr>
<tr>
<td>Radiation and chemotherapy</td>
<td>5</td>
</tr>
<tr>
<td>Hormone</td>
<td>3</td>
</tr>
<tr>
<td>Chemotherapy and hormone</td>
<td>2</td>
</tr>
<tr>
<td>Surgery</td>
<td>2</td>
</tr>
<tr>
<td>Radiation</td>
<td>1</td>
</tr>
<tr>
<td>Radiation and hormone</td>
<td>1</td>
</tr>
</tbody>
</table>

Summarized from Clinical Journal of Oncology Nursing • Volume 17, Number 6 • Benefits of Medical Qigong in Patients With Cancer
TABLE 2. Pre- and Postintervention Means for Quality-of-Life Surveys

<table>
<thead>
<tr>
<th>Survey</th>
<th>Total Sample</th>
<th>Participants Who Completed Surveys at Both Time Points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>X</td>
</tr>
<tr>
<td>Pre-PSQI</td>
<td>33</td>
<td>6.48</td>
</tr>
<tr>
<td>Post-PSQI</td>
<td>16</td>
<td>4.88</td>
</tr>
<tr>
<td>Pre-CES-D</td>
<td>38</td>
<td>14.13</td>
</tr>
<tr>
<td>Post-CES-D</td>
<td>19</td>
<td>7.47</td>
</tr>
<tr>
<td>Pre-BFI</td>
<td>38</td>
<td>2.74</td>
</tr>
<tr>
<td>Post-BFI</td>
<td>19</td>
<td>1.83</td>
</tr>
</tbody>
</table>

BFI—Brief Fatigue Inventory; CES-D—Center for Epidemiologic Studies—Depression scale; PSQI—Pittsburgh Sleep Quality Index

Functional Assessment of Cancer Therapy—Fatigue scale and the Profile of Mood States—Fatigue subscale, with strong correlations. Cronbach coefficient alphas showed high reliability (> 0.95).

The Center for Epidemiologic Studies—Depression (CES-D) scale is a 20-item survey used to assess depressive symptoms. Internal consistency is 0.9 in people who are hospitalized and 0.85 in people who live in the community. CES-D has a test-retest reliability of 0.54 and a high correlation with other instruments that measure similar symptoms. People who score a total of 16 or higher are considered depressed and require additional assessment (Radloff, 1977).

The Pittsburgh Sleep Quality Index (PSQI) (Buysse, Reynolds, Monk, Berman, & Kupfer, 1989) contains seven components and is used for measuring sleep quality. The PSQI measures quality of sleep, sleep latency, sleep duration, efficiency, disturbances, use of sleep medication, and daytime sleep dysfunction. Scores range from 0–21, with higher scores indicating worse sleep quality. A score greater than 5 indicates poor sleep. The PSQI has a sensitivity of 0.89% and a specificity of 0.86% (Buysse et al., 1989).

Procedures

All patients who signed up to take an MQ class were invited to participate in the study. Informed consent was obtained prior to data collection. A packet was provided to the participants before their first class and again prior to their last class. The packet included the BFI, CES-D, and PSQI, and it required 15–20 minutes to complete. Patients were able to ask questions concerning any of the items on the questionnaires. After distribution, the principal investigator waited until everyone completed the surveys and collected all of the study packets.

All patients participated in a 1.5-hour MQ class for five weeks. The MQ class consisted of specific series of movements combined with visualizations for relaxation. The first class introduced the history of Qigong and the experience of creating Qi. Consecutive classes consisted of creating Qi and physical movements. Patients were encouraged to practice MQ as much as possible outside of class.

Data Analysis

Descriptive statistics were used to determine mean scores of each of the instruments. Statistical testing was used to compare preintervention scores to postintervention scores on the BFI, CES-D, and PSQI. Because all measures are continuous, a paired t test was conducted to determine whether the average participant experienced a significant increase in the average score.

Results

The sample consisted of 38 participants and the mean age was 58 years (range 36–75 years) (see Table 1). Thirty-nine patients with cancer and survivors took the class, but one person refused participation. All 38 participants completed the preintervention packet, and 22 completed the postintervention packet. Sixteen participants did not attend the last class. Fifteen participants completed the pre- and postintervention PSQI, 19 completed the pre- and postintervention CES-D and BFI. Pre- and postintervention means for each survey can be found in Table 2. The CES-D scores were significantly different at pre- and postintervention, but the remaining survey scores were not (see Table 3).

Discussion

The participants were relatively active, and most were women and receiving no treatment for cancer. Many of the participants had positive outlooks concerning their diagnoses and reported having adequate social support. The participants often attended not only the MQ classes, but many other educational opportunities and were motivated to learn about alternative methods to achieve better QOL and health.

Although only the CES-D scores were significantly improved postintervention, all of the scores were more favorable after the MQ classes. The participant mean scores of all the surveys were positive pre- and postintervention. Sleep scores were the least improved following the classes. Those results are not consistent with other studies that have found MQ to be effective in enhancing sleep quality (Casas et al., 2009; Jahnke, Larkey, Rogers, Enilier, et al., 2010; Lynch, Sawynok, Hiew, & Marcon, 2012). That finding may be because the scores at the beginning of the classes showed only slight sleep problems.

A reduction in depression screening scores with the use of MQ has been shown in previously published literature in addition to the current study (Tsang, Tsang, et al., 2013). However, the current study conducted the MQ intervention for five weeks compared to others that were performed for 12 weeks, which

TABLE 3. Paired Samples Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre- and post-PSQI scores</td>
<td>0.85</td>
<td>14</td>
<td>0.41</td>
</tr>
<tr>
<td>Pre- and post-CES-D scores</td>
<td>3.38</td>
<td>18</td>
<td>-</td>
</tr>
<tr>
<td>Pre- and post-BFI scores</td>
<td>2</td>
<td>18</td>
<td>0.06</td>
</tr>
</tbody>
</table>

*p values are two-tailed.

BFI—Brief Fatigue Inventory; CES-D—Center for Epidemiologic Studies—Depression scale; PSQI—Pittsburgh Sleep Quality Index
TABLE 2. Pre- and Postintervention Means for Quality-of-Life Surveys

<table>
<thead>
<tr>
<th>Total Sample</th>
<th>Participants Who Completed Surveys at Both Time Points</th>
<th>Survey</th>
<th>t</th>
<th>d</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-PSQI</td>
<td>16</td>
<td>45.8</td>
<td>4.58</td>
<td>15</td>
<td>5.33</td>
</tr>
<tr>
<td>Pre-CES-D</td>
<td>16</td>
<td>14.11</td>
<td>11.72</td>
<td>19</td>
<td>12.88</td>
</tr>
<tr>
<td>Pre-CES-D</td>
<td>16</td>
<td>7.97</td>
<td>6.29</td>
<td>17</td>
<td>7.47</td>
</tr>
</tbody>
</table>

**Receive Continuing Nursing Education Credits**

Receive free continuing nursing education credit* for reading this article and taking a brief quiz online. To access the test for this and other articles, visit http://evaluationcenter.cns.org/Login.aspx. After entering your Oncology Nursing Society profile username and password, select CNE Tests and Evaluates from the left-hand menu. Scroll down to *Clinical Journal of Oncology Nursing* and choose the test(s) you would like to take.

* The Oncology Nursing Society is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center’s COA.