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Case Report

Case Series of Multiple Health Benefits in Those Undertaking Extended Qigong Practice as a Complementary Self-care Practice in an Outpatient Pain Clinic

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Abstract

***Background*:** Qigong, traditional Chinese mind-body practices, is currently receiving increasing attention with exploration of what it is and what it does. Common elements include postures and movement, attention to breathing, and mental instructions. There is a growing literature on the health benefits of qigong in chronic pain and other conditions, and an intervention that provides benefit in multiple domains is particularly important for clinical practice. In this report, we present a case series of six individuals who engaged in extended qigong practice over the course of at least 4 and up to 11 years, with data derived from an observational trial which evaluated effects of qigong practice on pain, mood, sleep, fatigue, quality of life and overall health in patients attending an outpatient pain management clinic.

***Methods*:** Participants attended weekly qigong classes as a voluntary, complementary practice for chronic pain management, and were encouraged to practice regularly at home. Qualitative data were collected prospectively over a series of sessions. Participant narratives were reviewed and those with extended practice histories were included in our case series.

***Results*:** Qualitative commentary reflected the richness and heterogeneity of benefits achieved in all studied health domains. Three primary themes were identified: 1) Direct benefits of qigong practice include improvements in pain, pain control, sleep, and other health areas; 2) Regular qigong practice improves quality of life, increases energy and activity, improves mood, and decreases use of medications; 3) Qigong practice cultivates an improved outlook on life and the future as an overall effect.

***Conclusions*:** This case series reveals multiple health benefits of extended qigong practice. Given that these occurred in those who practiced the most, one of the barriers to potential health benefits achieved by qigong is commitment to the practice. In appropriate circumstances, health care professionals can recommend qigong as a complementary practice for successful chronic pain management.

Keywords

Qigong; chronic pain; case reports

1. Introduction

Qigong refers to traditional Chinese mind-body practices and can involve postures and movement, attention to breathing, and meditative instructions. Contemporary terminology refers to such practices as meditative movement [1, 2] or movement-based embodied contemplative practice [3]. There are many forms of qigong, and heterogeneity of practice forms as well as variations in amounts of practice are challenges for exploring the health benefits of qigong. Nevertheless, there is a growing literature on health benefits of qigong [4], especially for chronic pain, sleep disorders and depression [5-8].

Following the publication of a randomized controlled trial which reported that qigong practice (Chaoyi Fanhuan Qigong) [9] led to reproducible multiple health benefits (improvements in pain, impact, sleep, physical and mental function) in two cohorts of individuals with fibromyalgia (mean pain durations of almost 10 years) [10], the form of qigong used in that trial has been offered as a voluntary complementary self-care practice at the tertiary care Pain Management Unit in Halifax, Nova Scotia. Two cohorts of individuals with chronic pain of varying origins were monitored in an observational trial using mixed-methods approaches in which quantitative and qualitative data were collected to reflect core domains of function (pain, sleep, mood, impact, quality of life). Mixed-methods approaches are now receiving attention and being valued as a more complete reflection of patient experiences, especially in relation to chronic pain [11, 12], and are an important component of observational studies.

In this report, we present qualitative assessments of experiences in six cases in which individuals experienced multiple health benefits from extended practice of qigong covering an interval of 4-11 years of diligent practice. The results of the entire cohort who participated in the

observational trial, with both quantitative and qualitative analyses, are being presented in another report (in preparation).

2. Methods

Participants in the observational trial (N=29) attended weekly qigong classes and received instruction in Chaoyi Fanhuan Qigong [9] by an instructor with 10 years of experience in such at commencement of the trial in 2014 (DM). This form of qigong involves two levels of instruction. Level 1 consists of a core of seven movements practiced as a set, with 10 repetitions of movements 1-5 and 5 repetitions of movements 6-7; each set takes approximately 15 (+/-2) minutes to perform. Level 2 consists of meditative instruction, and involves seated, standing and laying postures. Weekly classes consisted of 120 min sessions with instructions and practice. Participants were encouraged to practice daily for at least 15-45 mins per day when they first began the practice, but for longer when they were experienced. Instruction consisted of six-week blocks offered over the course of the year, with intervals determined by calendar and other events. Information recorded at study entry included age, diagnoses, duration of pain, and medications. Participants completed questionnaires (quantitative, qualitative) at the end of each 6-week block, and self-reported practice times. The information summarized in this report is derived from qualitative questionnaires.

The trial consisted of two cohorts, observed between 2014-15 and 2016-17 (Table 1), and was undertaken as Research in Medicine (RIM) projects by two medical students (MP, LC). For the intervening interval (2015-16), qigong classes continued to be offered at the Pain Management Unit according to the seasonal sessions. All six cases reported in this trial participated in Interval 1 (RIM1) and Interval 2 (RIM2) sessions, and continued throughout the intervening interval, so their total experience with qigong was at least 3 years of practice. All were not new to qigong when they commenced Interval 1, so their practice experiences are even more extensive. Commencement times for each individual are listed in Table 2.

The observational trial was approved by the Nova Scotia Health Authority Research Board.

3. Results

Table 2 summarizes the experiences of 6 people (4 females, #3, #11, #12, #15; 2 males, #5, #9) who were 44-69 years old at the commencement of Interval 1, who had multiple chronic pain conditions of 3-47 years duration and who underwent extensive qigong practice. All practiced extensively during the two observational intervals (2014-15, 2016-17), and all continued on with practice sessions offered by the clinic in the intervening interval. The two columns reflect experiences in their own words, with some condensation simply to provide a more compact presentation. All participants were not new to qigong in 2014, having encountered it earlier either in the context of being a participant in the randomized controlled trial [10] or undertaken it as part of the voluntary self-care practice offered in the clinic prior to these observational intervals. Start dates for qigong practice (2006-2013) are listed for each individual in Table 2, and experiences reflect real-world qigong practice of 4-11 years.

Table 1 Components of the observational trial of qigong as a voluntary self-care practice at a tertiary care pain management unit.

Interval 1: RIM1 **July 1, 2014-May 31, 2015** 6 six-week sessions offered (Summer, Fall 1, Fall 2, Winter 1, Winter 2, Spring)	**Interval 2: RIM2** **July 1, 2016-May 31, 2017** 6 six-week sessions offered (Summer, Fall 1, Fall 2, Winter 1, Winter 2, Spring)
Data collected at each interval entry: Demographics and medical history. Data collected at end of 6-week sessions: Qualitative survey consisting of open-ended questions relating to pain, sleep, other health areas, quality of life, current medication, practice time (days/week, minutes/day).	

Note: Quantitative scales for pain, mood, quality of life, sleep, fatigue, health locus of control, and attitudes towards complementary and alternative therapies were also completed. These are reported in the analysis of the entire cohort in which there is control data (in preparation).

Table 2 Summary of qualitative comments of 6 individuals who underwent extensive qigong practice for 4-11 years. Self-reported practice times relate to the two specific observation intervals identified as RIM1 and RIM2 in Table 1.

Participant number **Gender, age** **Pain diagnoses (duration, years)**	**Practice amount** **days/week** **min/day** **# weeks**	**RIM1 comments** **2014-2015** **(wks=weeks)** **CFQ=Chaoyi Fanhuan Qigong**	**RIM2 comments** **2016-2017** **wks=weeks** **CFQ=Chaoyi Fanhuan Qigong**
#3 Female, 66 Back pain (34) Fibromyalgia (27) Headache (47)	7/week 20-180/day 36 weeks RIM1 7/week 120-150/day 36 weeks RIM2	**6 wks:** since starting CFQ, life has changed; can sleep without waking every hour, no longer take sleep meds; work full time and enjoy life; no pain or very little at times; shoulder has more movement; can eat food couldn't eat before; no longer taking pain meds; **12 wks:** still very satisfied; no pain, energy improved; no food issues; frozen	**6 wks:** no more: chronic pain, chronic fatigue, fibromyalgia, irritable bowel syndrome, food sensitivity, environmental [allergies], frozen shoulder, plantar fasciitis, neck pain, issues from head trauma, tendonitis [in] wrist, nerve damage [in my] arm; my eyes improved by 0.25 [diopters in] each eye; no longer need [sleep] meds due to CFQ; am working fulltime and able to do my duties; have regained my life;

	(started qigong practice in 2013)	shoulder no longer an issue; **18 wks:** continue to have no pain; eat most foods; no sleep meds, pain pills or creams	**12 wks:** (as before); **18 wks:** (as before); **24 wks:** (as before); **30 wks:** my quality of life is excellent due to CFQ; this is a lifestyle; **36 wks:** discontinued pain meds and sleep medications; no more trips to therapy or massage
#5 Male, 69 Back pain Headache (7) Osteoarthritis (10) Rheumatoid arthritis (6) Fibromyalgia (15)	6/week 25-55/day 36 weeks RIM1 7 week 45-180/day 36 weeks RIM2 (started qigong practice in 2012)	**6 wks:** pain improved slightly; sleep deteriorated slightly; **12 wks:** pain shifted in location, increased or decreased intensity, but improving; some improvement in mood, outlook and quality of life; **18 wks:** improvement in pain severity and frequency; **24 wks:** pain increased in areas but feels more “shallow”, like earlier on (10 yrs ago)	**6 wks:** CFQ has had a miraculous effect/has saved my life; pain levels were 5-10 and now they are 0-3; my mind is sharper; my anger is greatly reduced; I walk four times as far in a day; was sleeping 14 hours a day, and now sleep 8 to 10; **12 wks:** I can now function mentally on a social level; while I am at about 40% of the "normal" person, am 200% better than I was in 2012 [before CFQ]; fentanyl reduced by 50%; some reduction in metformin; **18 wks:** restored hope for spiritual development; pain now 0-2; reduced opiate intake by 50%; **24 weeks:** [pain] down by 90%; improved diabetes; steady improvement in all areas except hearing; **30 wks:** there are times when I have no pain; dosage of opiates dropped by 67%; balance is less certain; flexibility has improved; dependence on cane is reduced; mind is sharper, moods are less volatile; happier; fentanyl dropped

			by [additional] 16%. **36 wks:** [pain] improved despite hip deterioration
#9 Male, 61 Headache (35) FM (10)	7/week 180/day 30 weeks RIM1 7/week 120-240/day 24 weeks RIM2 (started qigong practice in 2011)	**6 wks:** CFQ works for me; pain always changes; am well and happy; **12 wks:** practicing for 4 years; fewer headaches, better mobility; better sleep; less tinnitus; better well-being; **18 wks:** am able to accomplish so much more since qigong; better sense of well-being; fewer headaches; consistently get 5-6 hrs sleep each night	**6 wks:** CFQ has provided me with the means to facilitate my own healing; decreased headaches, pain in neck and shoulder, fatigue; improved mobility and focus; went from 2-3 hours [of sleep] to 5-8 hours; before CFQ, could not watch movies/tv, could not stay in noisy places/events [due to] tinnitus/headaches, could not do much work because of neck, shoulder and arm pain; **12 wks:** since CFQ, [I] haven't had a cold or flu; quality of life has been influenced in profound ways; **18wks:** (as before); **24 wks:** no new changes
#11 Female, 63 Back pain (15) Cervical strain (15) Neuropathic pain (15) Orofacial pain (19) Osteoarthritis (15) Fibromyalgia (15)	7/week 90-150/day 36 weeks RIM1 7/week 90-150/day 18 weeks RIM2 (started qigong practice in 2008)	**6 wks:** not new to CFQ (practicing since 2008); use classes to maintain control of pain and enjoyment of life; had sleep apnea (stopped breathing 22 times/hr) and no longer need CPAP (continuous positive airways pressure) device; still have pain, but regained joy of life; since beginning qigong, no longer take methotrexate, hydromorphone, allergic meds, folic acid); **12 wks:** qigong helped in all aspects of my life - pain, sleep, anxiety, well-	**6 wks:** was told that there wasn't more doctors could do for me; had a lot of pain and felt very low; qigong has relieved much of my pain and has helped me to cope with any remaining pain; when I first came to CFQ (2008), was taking 22 different prescriptions and now am down to 3; when first start[ing] [CFQ] I was using a CPAP machine and [had] moderate to severe sleep apnea; don't use [it] anymore and [no] symptoms in the last 5 years! sleep like a baby thanks to CFQ; lower back pain and sciatic numbness in my right leg much improved; am so grateful to CFQ as it has given me back a good life; [was] house-bound and in terrible pain and now I enjoy

		being; credit qigong for giving me my life back; was taking 22 pills/day at start, now only 4 pills/day	life; **12wks:** when first started CFQ was using a walker and could barely get around; went from that to 2 canes and then 1 cane and now I don't need anything; **18 wks:** (as above)
#12 Female, 56 Neuropathic pain (6) Orofacial pain (30)	7 week, 90-150 min/day 30 weeks RIM1 7/week 60-210/day 36 weeks RIM2 (started qigong practice in 2006)	**6 wks:** qigong gives sense of control (8 years practice); asthma much improved (no longer use puffer); helps bring pain to manageable levels; sleep better; no longer need to nap every day; better quality of life; **12 wks:** very pleased, pain lower, sense of purpose has returned; less anxiety, fewer meds, less isolated, less asthma, better digestion; **18 wks:** had flashbacks at night, but PTSD (post-traumatic stress disorder) symptoms resolved; have socioeconomic stressors, need qigong to cope	**6 wks:** CFQ has saved my life! now have hope; was suicidal, [had] anxiety disorder, slept all day, [was] isolated, fearful, agitated; after CFQ, improved sleep, less isolation, lowered/dropped some medications, no longer see a therapist, reduced seeing General Practitioner (GP) to once every 3 months; pain is better managed, can cope better, can go on walks, eliminated anxiety attacks, eliminated depressive episodes for 4 years, can volunteer, improved self- esteem and hope for the future; prior to CFQ, woke every 45 mins in pain with vomiting; since beginning CFQ in 2006, [changes are] remarkable; **12 wks:** in consultation with my GP, discontinued one anti-anxiety medication; **18 wks:** before CFQ, had 3 asthma puffers; have not used/needed them for over 2 years; before CFQ, struggled with PTSD [which is] greatly diminished; am more positive and grateful for my life; blood pressure is now normal; am 1.5 inches taller; **24 wks:** (as before); **30 wks:** no suicidal ideation/self-

			harm in many months; lowering clonazepam and oxycontin; **36 wks:** (as before).
#15 Female, 44 Back pain (3) Cervical sprain (3) Neuropathic pain (3) Headache (3) Orofacial pain (3) Osteoarthritis (3) Fibromyalgia (3)	7/week 160-210/day 36 weeks RIM1 7/week 210-300/day 30 weeks RIM2 (started qigong practice in 2012)	**6 wks:** satisfied with CFQ [comments on limits of doctor knowledge and options for chronic pain]; neck pain, headaches decreased; digestive health improving; sleeping better; **12 wks:** pain increased and decreased, but average is down; no severe pain for months; sleep well most nights; **12 wks:** less fatigue; more hopeful; **24 wks:** best pain management method I have found; reduction in neck pain, back pain; improved food tolerance; sleep well	**6 wks:** CFQ has completely turned my life around - from dysfunctional to more and more functionality and wellness every month; am grateful [for ongoing classes]; am leaving health problems behind to my surprise and the surprise of all my doctors and family; my condition was thought to be incurable and that I would have to live with that much pain for the rest of my life; more range of motion in neck; sleep interruption in past weeks but pass sleepless time with CFQ practice; drive more and am less anxious; stopped pain med(ication) completely (was on for past 4.5 yrs); **12 wks:** happier, more active, more productive, feel better; **18 wks:** as above; **24 wks:** discharged in Jan 2016 from ongoing care with ICCS [Integrated Chronic Care Services]; expect next pain clinic [visit] to be my last; **30 wks:** (as before).

All cases report major improvements in pain, sleep, mental and physical function, and in various additional other health areas. These additional areas include: irritable bowel syndrome, food and environmental sensitivity, frozen shoulder, plantar fasciitis, neck pain, head trauma, wrist tendonitis (#3), immune function (#9), respiratory function/sleep apnea, mobility (#11), suicidal ideation, depression, anxiety, and post-traumatic stress (#12). Several comment specifically on the profound (even miraculous) nature of their health changes (#3, #4, #11, #12, #15). Most also comment on discontinuation or reduction in medications for pain (#3, #5, #11, #12,

#15). One person even reports going from 22 prescriptions for various conditions down to 3 (#11) over the course of her 9 year experience with qigong.

4. Discussion

This report presents the experiences of 6 individuals with chronic pain who essentially transform their previously health-compromised lives by diligent and long-term practice of qigong for 4-11 years. Benefits are not limited to pain, but cover a wide range of health conditions and include improvements in sleep and fatigue, mental health and respiratory function. Controlled trials and aggregate analyses indicate benefits of qigong for pain [5, 13], sleep and fatigue [14], mental health [7, 8], respiratory function [15], and multiple other health domains [4]. Several trials which address whether the amount of qigong practice contributes to outcomes within the trial have shown that benefits are related to amount of practice [10, 14]. While meta-analyses and other forms of overview analysis often acknowledge that this factor probably matters, few currently stratify analysis around this factor.

The cases reported here involve heterogenous presentations with respect to pain diagnoses, durations and comorbidities, yet all report remarkable and multiple health benefits from extended practice of qigong. Additional case reports attest to remarkable health benefits in chronic pain conditions with long-term qigong practice [16-18]. The merit of reporting such real-world experiences is that clinical trials do not examine durations of practice such as those encountered here due to multiple pragmatic factors. Controlled trials of 6-12 months duration are feasible and common, and can compare outcomes to various control groups and to other approaches; they can also address practice thresholds for clinically meaningful benefits in particular health conditions, and determine outcomes in those who adhere to recommended amounts of practice compared to those who engage in minimal practice. In view of outcomes reported here, clinical trials also should incorporate extensions for those who experience benefits during the controlled portion of the trial, allowing for participants to engage in long-term practice and record real-world experiences. Thus, it is this subpopulation who will be motivated to explore possibilities and to engage in extended practice. Furthermore, qigong trials, both controlled and extended, should routinely consider recording qualitative comments in addition to quantitative measures in order to capture the full range of participant experiences. In view of the range of beneficial responses recorded here, mechanistically, qigong must influence multiple regulatory mechanisms that lead to better integrated function of the organism, and exploration of such mechanisms is now occurring [19]. Qigong has both “eastern” (traditional) and “western” (contemporary) presentations, and investigators will need to develop a sense of “bi-culturality” in exploring its effects [20].

In summary, extended qigong practice: 1) produces improvements in pain, pain control, sleep, and other health areas; 2) improves quality of life, increases energy and activity, improves mood, and decreases use of medications; 3) cultivates an improved outlook on life and the future as an overall effect. These benefits had not been attained by conventional medical treatments over the many years prior to participants starting their qigong, and this makes it essential that continued exploration of the health benefits of qigong takes place. The multi-modal nature of benefits may make it particularly suitable for those with challenging health conditions.

Author Contributions

LC conducted data collection and analysis for RIM2, and assisted in manuscript writing. MP conducted data collection and analysis for RIM1. ML assisted in trial design and participant recruitment. DM provided CFQ instruction to participants. JS assisted in trial design and data analysis, and drafted the manuscript. All authors have approved the content of the manuscript.

Competing Interests

DM provides community-based instruction in CFQ in Halifax, Nova Scotia. All other authors declare that no competing interests exist.

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