Complementary Therapies in Medicine (2013) 21, 14—28

Available online at www.sciencedirect.com

SciVerse ScienceDirect

journal homepage: www.elsevierhealth.com/journals/ctim

''More than I expected'': Perceived benefits of yoga practice among older adults at risk for cardiovascular disease☆

Gina K. Alexander[a,*], Kim E. Innes[b], Terry K. Selfe[b], Cynthia J. Brown[c]

[a] *Texas Christian University, Harris College of Nursing and Health Sciences, Fort Worth, TX, United States*
[b] *West Virginia University, Department of Community Medicine, West Virginia University School of Medicine, Morgantown, WV, United States*
[c] *University of West Georgia, School of Nursing, Carrollton, GA, United States*
Available online 29 November 2012

KEYWORDS
Yoga;
Benefits;
Qualitative

Summary
Objective: This study was conducted with participants from trials examining the effects of an Iyengar yoga program on cardiovascular disease risk. The objective of the current study was to evaluate the perceived benefits of yoga in a population of older, predominantly overweight adults participating in a gentle 8-week yoga program.
Design: This study used a constructivist-interpretive approach to naturalistic inquiry.
Setting: A total of 42 participants completed the intervention and met the inclusion criteria for the current qualitative study.
Intervention: The 8-week Iyengar yoga program included two 90-min yoga classes and five 30-min home sessions per week. Participants completed weekly logs and an exit questionnaire at the end of the study.
Main outcome measures: Qualitative data from weekly logs and exit questionnaires were compiled and conventional content analysis performed with the use of ATLAS.ti to facilitate the process.
Results: Four broad themes emerged from content analysis: practicing yoga improved overall physical function and capacity (for 83% of participants); practicing yoga reduced stress/anxiety and enhanced calmness (83% of participants); practicing yoga enriched the quality of sleep (21% of participants); and practicing yoga supported efforts toward dietary improvements (14% of participants).

☆ This research was supported in part by the University of Virginia Institute on Aging, Grant Number R21-AT-0002982 and 1-K01-AT-004108 from the National Center for Complementary and Alternative Medicine (NCCAM) and the Office of Research on Women's Health (ORWH), and Grant Number T32-AT-000052 from NCCAM. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the University of Virginia, Texas Christian University, West Virginia University, NCCAM, ORWH, or the National Institutes of Health.
* Corresponding author at: Harris College of Nursing and Health Sciences, Texas Christian University, TCU Box 298620, Fort Worth, TX 76129, Unites States. Tel.: +1 817 257 6763; fax: +1 817 257 4070.
E-mail address: g.alexander@tcu.edu (G.K. Alexander).

0965-2299/$ — see front matter
http://dx.doi.org/10.1016/j.ctim.2012.11.001

Conclusions: These results suggest that yoga may have ancillary benefits in terms of improved physical function, enhanced mental/emotional state, enriched sleep quality, and improved lifestyle choices, and may be useful as a health promotion strategy in the prevention and management of chronic disease.

Background

The practice of yoga has become increasingly common in western industrialized countries.[1–5] Core components of yoga include meditation, physical postures (asanas), and breathing exercises (pranayama) designed to promote mental, physical, and spiritual well-being.[6] Recent research suggests that yoga may enhance health and well-being in healthy and clinically ill populations.[7–13] Practicing yoga may aid in the prevention and management of multiple chronic conditions, including depression, stress, anxiety, menopausal symptoms, arthritis, low back pain, cancer, cardiovascular disease, and type 2 diabetes.[7–9,14–21]

In addition to the health benefits quantified in yoga intervention trials, a limited number of qualitative studies describe health-related outcomes not readily captured by conventional instruments. Individuals have conveyed experiences of life transformation and symptom relief from conditions such as cancer, diabetes, stroke, eating disorders, rheumatoid arthritis, and chronic pain.[22–28]

To date, few qualitative studies have examined how older adults perceive yoga practice, particularly those with limited or no previous yoga experience. The purpose of this study was to evaluate the perceived benefits of yoga practice as described by older, predominantly overweight adults at risk for cardiovascular disease who were learning the practice of gentle yoga over the course of an 8-week time period.

Methods

Study design

The current qualitative study was conducted with participants from two randomized controlled trials examining the effects of an 8-week Iyengar yoga program on cardiovascular disease (CVD) risk in older adults. The first trial, the Women's Health, Yoga and Education Study (WHYES), included sedentary, overweight, but overall healthy postmenopausal women.[29–31] The second trial, the Diabetes and Yoga Study (DAYS), targeted older adults with type 2 diabetes.[29,32] DAYS and WHYES participants were enrolled concurrently and shared the same intervention protocol.[29,32,33]

Each participant completed a weekly yoga practice log and an exit questionnaire regarding perceptions of the study overall (see description below). These data were the basis for the present qualitative study.

Human subjects protection

The Institutional Review Board at the affiliated university approved the study. Written informed consent was obtained from participants prior to study enrollment.

Sample

Participants were recruited through advertisements in community newspapers, university buildings, popular local venues, medical offices, e-mail distribution lists, and the University clinical trials website. Inclusion criteria consisted of age (45 years or older), postmenopausal status (for women), no yoga experience within the past year, and ability to complete a gentle 8-week yoga program. Additional eligibility criteria for DAYS included a medical diagnosis of type 2 diabetes mellitus for at least 6 months; for WHYES, an inactive lifestyle of exercise <3 times per week; and body mass index [BMI] $\geq$25, waist circumference $\geq$88 cm, or a first-degree relative with diabetes or essential hypertension.

Excluded were current smokers, those with a diagnosis of major orthopedic or neurological disorders, active musculoskeletal pain hindering completion of the yoga intervention, or sleep apnea, and/or those who regularly used an assistive device for ambulation. Additional exclusion criteria for DAYS included the use of insulin, any serious chronic comorbid conditions, acute coronary symptoms within the past 6 months, and/or an artificial pacemaker; for WHYES, impaired insulin sensitivity, use of medications affecting carbohydrate metabolism, and/or any serious chronic conditions.

Eligibility for the current study included attending a minimum of six yoga class sessions and completing weekly yoga logs and an exit questionnaire. The rationale for the attendance criterion is based on the authors' prior experience in yoga research and consultation with the yoga instructor regarding the acquisition of yoga skills and associated benefits. Authors determined that a participant who attended at least six sessions of yoga completed roughly one-third of the intervention and likely attained a basic familiarity with yoga.

A total of 75 participants (38 yoga and 37 control group) were enrolled in the WHYES, and 40 participants in the DAYS (20 yoga and 20 control group). Among the 58 individuals collectively assigned to the yoga intervention group, 42 completed at least six yoga sessions and an exit questionnaire (N = 30 from WHYES, 12 from DAYS).

Intervention

Daily yoga practice was the foundation of the intervention protocol. The 8-week intervention consisted of 90-min Iyengar yoga class sessions held two days a week and 30-min home practice sessions on the five non-class days. Iyengar yoga is a classical form of Hatha yoga focusing on standardized, precisely aligned poses (*asanas*) that can be tailored for individuals who are elderly, physically unfit, or suffer from chronic illness.[34,35] The use of props (blocks, belts,