

Yoga for Caregiving Dyads Experiencing Chronic Pain: Protocol Development for Merging Yoga and Self-Management to Develop Skills Intervention

Abstract

Context: Caregivers often provide unpaid care for family members and friends with physical disabilities, often to the detriment of their health and well-being. Caregivers often experience pain, and individuals with physical disabilities also are likely to experience pain. Merging yoga and self-management to Develop Skills Study (MY-Skills) is an intervention that merges self-management education with yoga for dyads experiencing chronic pain. **Aim:** This article presents the yoga protocol for the MY-Skills intervention. **Methods:** The yoga protocol was revised based on feedback from six caregiving dyads. The protocol focuses on reducing pain interference and supporting the caregiving dyad. **Results:** The final yoga protocol incorporated the following elements: Centering and mantra, prana vidya and pranayama, asanas, mudra, and guided savasana/dhyana. **Conclusion:** The MY-Skills yoga protocol was modified by a yoga therapist with feedback from study participants. Revisions focused on the caregiving dyad, with specific attention to reducing pain interference.

Keywords: Caregiving dyad, chronic pain, exercise, pain interference, protocol, yoga

Introduction

Caregivers often provide unpaid care for family members or friends with chronic diseases or disabilities. Importantly, up to 74% of caregivers experience chronic pain, as well as risk for injury by providing care, decreased quality of life, depression, and increased mortality.^[1-3] Individuals who have chronic physical diseases are more likely to have pain and pain interference than those without disability.^[4] The complexity of pain is influenced by the dynamics between two individuals (i.e., caregivers and care recipients) that make-up the caregiving dyad. Providing one intervention to target the pain for both members of the caregiving dyad is novel. Therefore, the purpose of this short communication is to describe the modification of the merging yoga with self-management skills (MY-skills) yoga protocol, originally designed for individuals (not caregiving dyads), during a pilot study to improve pain-related interference for caregiving dyads. The modified yoga protocol will be implemented in the primary intervention

study for caregiving dyads with chronic pain.

Methods

Following approval from the university institutional review board, dyads were recruited primarily from local pain and community health centers. Participants were eligible if they were: 18 years or older, English-speaking, able to stand, lived at home, had musculoskeletal pain for at least 3 months, had moderate-severe pain intensity and interference with daily activities, were sedentary, scored >4 out of 6 on the short MiniMental Status Examination, and were part of a caregiving dyad. Participants were ineligible if they had a history of stroke, heart attack, Alzheimer's or dementia, currently receiving cancer treatment, were in therapy for chronic pain, or had completed self-management education in the last year.

The yoga protocol for the MY-Skills intervention evolved from previous studies with people with chronic pain Schmid,

Barbara Ann Gibson, Marieke Van Puymbroeck¹, Christine A. Fruhauf, Arlene A. Schmid², Jennifer D. Portz³

Departments of Human Development and Family Studies and ²Occupational Therapy, Colorado State University, Fort Collins, ³Department of Internal Medicine, University of Colorado Anschutz, Aurora, CO, ¹Department of Parks, Recreation, and Tourism Management, Clemson University, Clemson, SC, USA

Address for correspondence:

Ms. Barbara Ann Gibson, 800 Oval Drive, Campus Delivery 1573, Fort Collins, CO 80523-1573 80521, USA. E-mail: barbara_gbsn@yahoo.com

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Fruhauf et al. 2019^[5] and neuropathy and modified by the yoga therapist to focus on the caregiving dyad with chronic pain. The yoga protocol was tailored to work in conjunction with the weekly educational information in the self-management portion of the intervention. Modifications were made after two cohorts of dyads completed the MY-Skills study. Validation of the yoga protocol was derived from observations by the yoga therapist, participant feedback about postures or sequences gathered after each session, and postassessment interview questions.

Results

Twelve individuals (six dyads) participated in two MY-Skills intervention cohorts. The participants were 83% female, 83% white, and 42% of the participants were under 50 years of age. Most participants experienced chronic neck and shoulder pain (75%). Table 1 shows for additional participant demographics.

The development and modifications to the yoga protocol are described below. Table 2 indicates the final key elements in the protocol each week.

Centering and mantra

Centering occurred at the beginning of all sessions to hone participants' attention toward the yoga session, and included closing eyes, attention to yoga, and progressive attention to body, mind, and emotions. Mantras, created from and spoken in the English language, were added to create an intentional commitment (*sankalpa*) at the start of each session to initiate participant connection to the session's overarching theme, thus promoting the merging of yoga and self-management education. Centering was linked to each session's mantra throughout the protocol to enhance and deepen attention on the *sankalpa*, helping participants increase attentive connection (*dharana*) to the words and feelings associated with mantra. Centering was modified from participants checking in with their body and linking to their body to also checking in with emotions and energy levels.

Table 1: Participant demographics

Variable	n or M (SD)	Percentage
Sex		
Female	10	83
Male	2	17
Race		
White	10	83
Black	1	8.5
Latinx	1	8.5
Age	52.5 (13.2)	100
Type of pain		
Chronic lower back pain	12	42
Chronic neck and shoulder pain	9	75
Fibromyalgia	7	58

SD=Standard deviation

Mantras were directed toward individuals within the first session of each week and then expanded to dyads within each week's second session to reflect and reinforce content delivered during the self-management education. During sessions with mantras that focused on the dyad, instructions were provided to expand this *dharana* to their partners by envisioning their partners while they silently repeated the mantra to positively influence the partnership and strengthen their resolve of helping each other [Table 2].

Notably, several participants had trouble with relating to some of the mantra phrases, feeling like the words circumvented their experiences with chronic pain, such as in weeks 3 and 5 where participants could not relate to "I am whole" and "I am able." In response, mantra was modified to "I will help myself" and "I am capable," which participants reported increased relatability and acceptability. At the end of sessions, short mantras, "ease" and "release" were integrated into guided *savasana*.

Prana vidya and pranayama

The self-management education in MY-Skills references conscious breathing as an important tool for chronic pain and dyadic relationship dynamics. Therefore, increased emphasis on breath in this protocol resulted in extension of exhalation to stimulate the autonomic nervous system, improve postural awareness, and create core awareness and strength. For example, alternate nostril breathing (*nadi sodhana*) was modified to include alternate nostril exhalation (*anuloma sodhana*). Lion's breath (*simhasana pranayama*), which can be excessively stimulating and disorienting for individuals with dizziness, was removed entirely since most participants exhibited light-headedness. As pranayama techniques were introduced and modified over the 8-week period, the number of asanas decreased to accommodate the extra instruction.

Mudra

Mudras were modified to meet participants' needs. For example, complex movements were replaced with basic finger touching and slow opening and closing of hands to enhance neurostimulation to forearms, hands, and fingers while minimizing complexity of movement. Partner hand touching was also included.

Asanas

The asanas focused on dynamic movement. Only one individual could regularly perform supine movements, thus, supine asanas were modified to be completed seated in a chair. Partners (especially those deemed the caregiver) tended to help each other with movements. When help was provided, extra time was needed and incorporated into the classes.

Partner asanas were added in week four and were designed primarily to enhance the dyadic relationship and improve outcome for dyads and secondarily to influence range of

Table 2: My-skills final yoga protocol key elements by week

Week	Sessions	Yoga MANTRA	Centering	Prana vidya and pranayama	Mudra	Asanas	Savasana/dhyana	Partner poses
1	1 and 2	“I am here for my care” “We are here for our care”	Connect to mantra	Introduction to breath awareness	Finger touches	Seated only	Seated body scan with progressive relaxation	
2	3 and 4	“I will help myself” “We will help each other”	Connect to mantra and check in with body	Breath awareness and extended exhalation	Finger touches	Seated and standing asanas using chair	Seated body scan with progressive relaxation. Connect to mantra visualizing sending message to individual and partner	
3	5 and 6	“I am capable” “We are capable”	Connect to mantra and check in with body	Intro to diaphragmatic breathing and extended exhalation	Finger touches	Seated and standing asanas using chair	Seated body scan with progressive relaxation. Connect to mantra visualizing sending message to individual and partner	
4	7 and 8	“Breathe in quiet, breathe out calm” “Breathe in quiet, breathe out calm”	Connect to mantra and check in with body and emotions	Diaphragmatic breathing, extended exhalation, and anuloma sodhana	Touching partner’s hand	Seated and standing asanas using chair. Intro to coming to floor in supine finishing asanas	Seated or supine body scan with progressive relaxation. Connect to mantra visualizing sending message to individual and partner	Shoulder abduction/adduction, elbow and wrist flexion with touching partner’s hands
5	9 and 10	“I am strong. Together we are stronger” “I am strong. Together we are stronger”	Connect to mantra and check in with body and emotions	Diaphragmatic breathing with focus on spinal integrity and core movement, extended exhalation, and anuloma sodhana	Touching partner’s hand	Seated and standing asanas with option of seated or supine during finishing asanas	Seated or supine body scan with progressive relaxation with added mantra “ease” and “release.” Connect to original mantra visualizing sending message to individual and partner	Shoulder abduction/adduction, elbow and wrist flexion with touching partner’s hands and silently saying mantra
6	11 and 12	“I will work with my energy” “We will work with our energy”	Connect to mantra and check in with body, emotions, and energy levels	Diaphragmatic breathing with focus on spinal integrity and core movement, extended exhalation, and anuloma sodhana	Touching partner’s hand	Seated and standing asanas. Supine or seated finishing asanas	Seated or supine body scan with progressive relaxation with added mantra “ease” and “release.” Connect to original mantra visualizing sending message to individual and partner	Shoulder abduction/adduction, elbow and wrist flexion with touching partner’s hands, silently saying mantra, and visualization of giving and receiving support to partner
7	13 and 14	“I choose health” “We choose health”	Connect to mantra and check in with body, emotions, and energy levels	Diaphragmatic breathing with focus on spinal integrity and core movement, extended exhalation, and anuloma sodhana	Touching partner’s hand	Seated and standing asanas. Supine or seated additional finishing asanas	Seated or supine body scan with progressive relaxation with added mantra “ease” and “release.” Connect to original mantra visualizing sending message to individual and partner	Shoulder abduction/adduction, elbow and wrist flexion with touching partner’s hands, silently saying mantra, and mirroring technique gazing into partner’s eyes with positive and cooperative facial expressions
8	15 and 16	“I can help myself”	Connect to mantra and check in	Diaphragmatic breathing with focus on spinal	Touching partner’s hand	Seated and standing asanas. Supine or seated	Seated or supine body scan with progressive relaxation with added	Shoulder abduction/adduction, elbow and wrist flexion with

Contd...

Table 2: Contd...

Week	Sessions	Yoga MANTRA	Centering	Prana vidya and Mudra pranayama	Asanas	Savasana/dhyana	Partner poses
		“We can help each other”	with body, emotions, and energy levels	integrity and core movement, extended exhalation, and anuloma sodhana	additional finishing asanas	mantra “ease” and “release.” Connect to original mantra visualizing sending message to individual and partner	touching partner’s hands, silently saying mantra, and mirroring technique with positive and co-operative facial expressions while giving and receiving support to each other

motion (ROM). To address ROM, the asanas incorporated shoulder abduction/adduction and elbow and wrist flexion. To address caregiving dyad relationships, the asanas were further nuanced to include: (1) hand touching and gazing into partner’s eyes with and without silently repeating mantra and (2) initiating mirroring technique with positive and co-operative facial expressions and visualization.

Guided savasana/dhyana

Guided savasana occurred at the end of sessions incorporating body scanning as a meditation directing attention through the body (dhyana) while focusing on mantras “ease” or “release”. Savasana was conducted while seated for all participants except for one in a supine position. Adding mantra to guided savasana transformed the original final silent relaxation to encourage a focused ease through the body. At the end of all sessions, the mantra from the beginning of the session was repeated in savasana with instructions to send the intention of the mantra to themselves and their partners.

Discussion

The MY-Skills yoga protocol was specifically designed to reduce pain interference and enhance the overall dyadic relationship. This protocol was revised iteratively, based on participant feedback, and resulted in changes to all sections of the protocol.

Learning how to notice emotional and physiological experiences in the body through interoception are important for chronic pain treatment.^[6,7] To do this, centering was expanded from participants checking in with their physical bodies to their emotional and energy bodies to align with self-management content that focused on emotions and energy. Mantras were chosen and modified specifically to reduce potential negative attentional bias and to shift to evoke positive emotions and experiences during sessions.^[8,9]

Breath (and the awareness of it) is a critical aspect of yoga, not only because it bridges the mind and body but also because of its effect on emotional and energetic states.^[10] An increased emphasis on breath in this protocol resulted in emphasis on exhalation. These changes were implemented to shift the focus specifically to the parasympathetic

nervous system through the vagus nerve to help with chronic pain through stress relief and anti-inflammatory effects.^[11] Focus on exhalation has been shown to improve posture and create core awareness and strength, which may decrease pain and improves back function.^[12]

Incorporating dynamic and partner asanas potentially improved participant accessibility and safety. Many participants experienced difficulty with asanas due to limited range of motion; therefore, asanas were updated to include smaller movements with proprioceptive neuromuscular facilitation.^[13] Partner asanas incorporated hand touching and gazing into partner’s eyes with and without silently repeating mantra to stimulate oxytocin.^[14] Partner asanas included mirroring techniques with positive and cooperative facial expressions, such as smiling, soft eyes, and visualization to stimulate neurons to decrease pain,^[15] stress,^[14] and increase dyadic trust, empathy, and reciprocity.^[15] Decreasing the number of asanas provided more time for participants to move slowly to better understand how movements affected them, how they could adapt movements for their needs, and expand at their own pace.

Adding mantra to guided savasana encouraged a focused ease through the body, which is thought to improve body awareness and interoception to reduce pain.^[7] During sessions, participants remarked how their ability to track tension and pain in their bodies improved and they thought this was a useful skill to help themselves and their partners with pain. Participants relayed how the visualizations of sending positive feelings toward their partners during sessions resulted in them replicating this behavior outside of sessions. Participants expressed that partner poses were sometimes awkward, especially at the beginning of the intervention, but as they became used to them, they enjoyed the fun and camaraderie while feeling closer to their partner. The participants also expressed that they became more patient and encouraging of their partner because they learned how to do this in yoga sessions.

Overall, this protocol was designed to work synchronously with self-management for caregiving dyads with chronic pain. By incorporating research recommendations and

feedback from participants, the protocol was accessible and useful to participants. However, participant demographics for this pilot study included mostly white females, thus our results are limited within this scope. Future research would benefit from including participants from different races and genders. Future studies should also consider testing the effectiveness of the protocol in larger intervention studies.

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Conflicts of interest

There are no conflicts of interest.

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