

LAUGHTER YOGA, ADULTS LIVING WITH PARKINSON'S DISEASE, AND CAREGIVERS: A PILOT STUDY

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Objective: This study explored outcomes of Laughter Yoga in adults with Parkinson's disease (PD) and their caregivers. Laughter has been shown to generally improve mood in physically healthy adults, and specifically in adults with heart disease or cancer, but little research exists regarding the impact of laughter in adults with Parkinson's disease. Low mood is frequently a co-morbid condition for adults with Parkinson's disease, and can negatively affect their caregivers.

Design: Pre-experimental ($O_1 \times O_2$) pretest–posttest design.

Settings/Location: Data collection occurred at six unique PD support groups in Southern California.

Subjects: Participants ($N = 85$) comprised a convenience sample of adults diagnosed with Parkinson's disease ($n = 47$) and accompanying caregivers ($n = 38$).

Intervention: Subjects participated in a 45-min Laughter Yoga (LY) session conducted by a Certified Laughter Yoga Teacher.

Outcome Measures: This study utilized the Laughter Yoga “How Do You Feel?” (HDYF) form. The form consists of a series of 10 scales labeled “well-being” measures including enthusiasm, energy level, mood, optimism, stress level, level of friendship with group members, level of awareness about breathing, level of muscle relaxation, level of mental relaxation, and ability to laugh without a reason.

Results and Conclusion: Paired sample *t*-tests reveal statistically significant improvements in well-being for adults with PD and their caregivers after attending an LY session. Therapists and other clinicians should consider utilizing this unique technique with adults with PD to address co-morbid low-mood conditions and include caregivers in the LY sessions for support and their own benefit.

Key words: Laughter yoga, Parkinson's disease, well-being, caregivers

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INTRODUCTION

Laughter has been widely shown to benefit physical and mental health across a variety of populations,¹ although few studies have been conducted with adults with Parkinson's disease. Parkinson's disease (PD) is progressive and physically incapacitating with possible co-morbid psychological involvement that can negatively affect quality of life.² Current PD treatments include psychotherapy and pharmacology, but many adults with PD have side effects with pharmacological treatment, resulting in a call for alternative treatment approaches for adults with PD who suffer with psychological symptoms.³ The nature of PD makes it difficult to separate biological from psychological processes, therefore treatments should be considered that include body and mind. This study explores if laughter, in the form of

Laughter Yoga, constitutes an alternative body/mind exercise that may benefit adults with PD and their caregivers.

Laughter

Laughter improves physical and psychological health-related outcomes across diseases and populations.^{4,5} Research related to psychological outcomes is prevalent with studies showing that laughter helps with stress, mood, memory, interpersonal relationships, psychological well-being, and quality of life.⁴ Laughter stimulates the amygdala, which may be helpful for adults with PD because deficits involving functions of the amygdala have been implicated in PD symptoms.⁶ The connection between an increase in dopamine brought about by laughter, and an increase in positive mood in adults with PD has yet to be explored in randomized clinical studies, although anecdotal accounts attest to the benefits of laughter on mood. Laughter may be a viable intervention for adults with PD suffering from psychosocial symptoms and include positive physical effects, which resemble those brought about by physical exercise.¹

Laughter can be categorized as spontaneous⁴ or simulated (self-induced).¹ Spontaneous laughter arises from a stimulus, requiring some type of humor⁴ whereas simulated laughter

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requires volition and does not require humorous stimuli.¹ Simulated laughter is based on the concept that a person can get the same physiological effect from self-induced laughter that they get from spontaneous laughter.⁴ Since trying to induce spontaneous laughter can vary in effectiveness due to personal tastes in humor, Laughter Yoga focuses on volitional laughter.

Laughter Yoga

Laughter Yoga (LY), started by Dr. Madan Kataria, utilizes breathing techniques, laughter exercises, core exercises, and meditation in a standardized form that can be easily replicated by trained instructors. Within the many ways to promote healthy laughter, LY stands as a method wherein one interacts within a group setting using exercises similar to improvisation or pantomime and simply “laughing for no reason” in order to induce laughter’s benefits. LY resembles traditional yoga in its emphasis on breathing techniques, but leaders and teachers who state they do LY must be trained in the method of Dr. Kataria.

LY has been associated with increased self-efficacy, including enhanced mood and productivity in nursing students.⁷ Randomized controlled studies examined the effect of LY on elderly depressed women, indicating increased life satisfaction and decreased depressive symptoms.⁸ Controlled studies within the medical arena utilized physiological measures and psychosocial measures, showing that LY increased positive feelings in patients waiting for an organ transplant,⁹ controlled blood glucose levels and decreased stress in patients with type 2 diabetes,¹⁰ and improved biopsychosocial functioning in stroke survivors in South Africa.¹¹ Laughter yoga improved motor function and flexibility in patients with PD in Iran, but the study did not include psychosocial measures of well-being.¹²

Caregivers

Caregiving is inherently challenging,^{13,14} and prior research has shown that the care recipient’s level of depression is a contributor to a caregiver’s mental health and sense of burden.^{14,15} Research has also shown that the most effective interventions for supporting caregivers include the care recipient.¹⁶

The current study focuses on simulated, or self-induced, laughter in the form of Laughter Yoga with a Certified Laughter Yoga Teacher (CLYT). CLYTs undergo a five-day training on the core exercises and standardized forms of LY that includes using LY with vulnerable populations. The participating CLYT was chosen based on her interest in older adults and her years of experience using the method. The aims of the current study are to explore whether participation in LY increases subjective feelings of positive mood and well-being in adults with PD and their caregivers.

MATERIALS AND METHOD

Design and Sample

Using a pre-experimental ($O_1 \times O_2$) pretest–posttest design, participants ($N = 85$) comprised a convenience sample of adults with a diagnosis of Parkinson’s disease ($n = 47$), and

accompanying caregivers ($n = 38$), who took part in Parkinson’s disease support group. The California State University Standing Committee for the Protection of Human Subjects approved this study.

Measures

This study utilized an adapted version of the Laughter Yoga “How Do You Feel?” (HDYF) form. The form consists of a series of 10 items that have been labeled “well-being” measures^{10,17} including enthusiasm, energy level, mood, optimism, stress level, level of friendship with group members, level of awareness about your breathing, level of muscle relaxation, level of mental relaxation, and ability to laugh without a reason. Items are measured by subjective self-report on a scale from 1 to 10 with 1 being worst and 10 being best ($\alpha = .84$).

Demographic and attitudinal data were gathered including current age, gender, age of onset of PD, whether the respondent was a caregiver, and whether it was their first time participating in LY. Understanding of LY was measured using a five-point Likert scale where 1 = not at all, 3 = somewhat, and 5 = very familiar with LY. Attitude toward LY was measured on a similar five-point Likert scale where 1 = negative, 3 = neutral, and 5 = positive feelings about LY.

Data Collection and Analysis

Participants completed the HDYF Form, demographic, and attitudinal survey at the beginning and end of the 45-min LY session. Paper surveys, clipboards, and pens were distributed to all LY participants. The last four digits of their telephone number were utilized to match pretest to posttest.

Paired samples *t*-tests were used to explore whether exposure to the intervention corresponded to a change in mood and an increase in positive feelings about LY after the intervention. SPSS version 22 was used for statistical analyses.

RESULTS

Participants with PD ($n = 47$) ranged in age from 53 to 91 ($M = 70$; $SD = 8.19$), with 28 men and 19 women. Age at diagnosis ($n = 44$) ranged from 30 to 78 ($M = 60.50$; $SD = 10.88$). The caregivers ($n = 38$) ranged in age from 42 to 86, ($M = 65$; $SD = 12.05$), with 8 men and 30 women. In all, 92% of participants ($N = 85$) had never participated in a session of LY prior to the support group.

Paired samples *t*-tests were conducted for the nine well-being measures on the HDYF survey (Table 1) with all showing statistically significant improvement with the exception of stress [$t(38) = 1.95$, $P = .058$], for caregivers, and optimism [$t(44) = 1.23$, $P = .225$], for adults with PD.

DISCUSSION

LY may be beneficial both for adults with PD and for their caregivers. Findings from this study are congruent with laughter research conducted on adults in the general population, and adults with physical illnesses such as cancer or heart disease.^{1,4} Improvements were found across all but two items, indicating at least temporary feelings of well-being

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