

Interest in and Barriers to Practicing Yoga among Family Caregivers of People with Cancer

Abstract

Background: Family caregivers of people with cancer report high levels of psychological distress. Yoga, with well-documented mental health benefits, could be a useful intervention to address distress in this population. However, little is known about yoga practices among cancer caregivers. The present study evaluates their interest in and barriers to yoga practice. **Methods:** We conducted a cross-sectional survey study of family caregivers of cancer patients at five suburban satellite locations of an academic cancer center. Survey items and statistical analyses focused on yoga usage as well as interest in and barriers to yoga practice. **Results:** Among 539 participants, most were females (64.8%), white (84.2%), and caring for a spouse or partner (54.7%). Interest in practicing yoga among study participants was 42.3%. Increased interest was independently associated with being females (odds ratio [OR] = 3.30, 95% confidence interval [CI] = 1.98–5.51, $P < 0.001$) and employed (part-time: OR = 2.58, 95% CI = 1.1–6.18, $P = 0.03$; full-time: OR = 1.77, 95% CI = 1.1–2.01, $P = 0.02$). Few participants (6.3%) were currently practicing yoga, although 31% had done so in the past. Sixty-one percent of those who had practiced before their loved one's diagnosis stopped practicing yoga afterward. Commonly cited barriers to yoga practice included time constraints (37.3%) and psychological obstacles (33.6%). About a quarter of those who had never practiced yoga lacked awareness of yoga's benefits (26.6%). **Conclusion:** Despite the low use of yoga, interest in practicing was moderately high, especially among women and employed caregivers. As caregivers face numerous barriers to yoga practice, strategies are needed to overcome these barriers and help them access yoga's health benefits.

Keywords: Cancer, caregivers, integrative medicine, psychological distress, yoga

Introduction

Family caregivers of patients with cancer, who play an important role in patient care, are at significant risk for high symptom burden, including poor physical and mental health.^[1-7] Family caregivers report high levels of psychological distress, anxiety, and depression, symptoms that negatively impact their health and quality of life.^[6,8-12] Over the past decade, there has been considerable growth in the development of psychosocial interventions to address various elements of distress among caregivers;^[13-16] however, little is known about the use and benefits of mind-body approaches, such as yoga, in this population.

Growing literature supports the benefits of yoga for physical and mental health, especially for high-stress populations.^[17-23] Yoga studies have also found promising

results in reducing psychological distress and improving quality of life among cancer caregivers.^[24-29] Moreover, evidence-based clinical guidelines from the Society for Integrative Oncology and the American Society of Clinical Oncology recommend yoga for reducing anxiety, stress, and depression, as well as for improving mood disturbance and quality of life.^[30,31] Hence, yoga could serve as a safe, evidence-supported stress-management intervention that may meet the psychological needs of caregivers.

While studies indicate that many cancer caregivers are generally interested in integrative medicine,^[32,33] little is known about caregivers' interest in and barriers to practicing yoga. To explore these critical issues, we conducted a cross-sectional survey of family caregivers of patients with

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various sites and stages of cancer. We sought to identify and evaluate their use of, interest in, and barriers to yoga practice. Our findings can inform yoga interventions that may help alleviate psychosocial distress among these crucial caregivers.

Methods

Study design and patient population

As part of a quality improvement program at Memorial Sloan Kettering Cancer Center's (MSK) Integrative Medicine Service, we conducted a cross-sectional survey of convenience sampling at five suburban satellite locations. The survey was part of a larger study evaluating yoga use among cancer patients.^[34] Eligible participants were 18 years or older, proficient in English, and identified as family caregivers of patients who had received a primary diagnosis, treatment, or follow-up care at MSK for cancer, including solid tumor and hematologic malignancies of any stage. Research staff approached potential participants in waiting rooms during the oncology clinical visits of their family members and invited them to complete self-administered surveys on iPads. MSK's Institutional Review Board authorized de-identified data collection for the research study. Our methods are reported in accordance with the Checklist for Reporting of Survey Studies.

Study variables and outcome measures

We developed a survey instrument to evaluate family caregivers' interest in, barriers to, and present and past experience of yoga practice. We appraised interest in yoga with the yes/no question, "Are you interested in practicing yoga during your loved one's cancer treatment and beyond?" Participants were also asked, "Have you practiced yoga before and/or after your loved one's cancer diagnosis?" Response options included: never practiced, practiced only before diagnosis, practiced only after diagnosis, and practiced both before and after.

To assess barriers to yoga practice, we adapted questions from a previous study of obstacles to physical activity among cancer survivors,^[35] using answer choices from the yoga research literature.^[36-38] Participants were asked about barriers that made it challenging to practice yoga or caused them to stop practicing. In response, they were able to select multiple barriers from a list, including the following: not aware of the benefits; no studio close to my house; not enough time/too busy; difficulty remaining disciplined; difficulty getting motivated; sadness; symptoms such as pain, fatigue, nausea, etc.; poor physical balance; lack of safe environment; lack of financial resources; surgical complications; and my doctor told me not to exercise.

Participants self-reported gender, race, age, employment status, relationship to the patient, and clinical variables

including their family members' cancer type and years since diagnosis.

Statistical analysis

Statistical analyses were performed with STATA (version 15.0; STATA Corporation, College Station, TX, USA). Demographic and clinical variables were summarized using descriptive statistics, with "unemployed" and "retired" combined as "not employed." Chi-square tests evaluated demographic and clinical predictors of interest in yoga practice. Use of, interest in, and barriers to yoga practice were analyzed with bivariate analysis. Further bivariate analysis was performed to assess barriers among subgroups, including those who were not interested, interested but never practiced, and practiced but stopped. We then used a multivariate logistic regression model to identify independent variables that predicted interest. We included variables with $P < 0.10$ from the bivariate analyses in the multivariate analysis. Analyses were all two-sided with $P < 0.05$ indicating significance.

Results

The survey was completed by 539 participants. About half of the participants (274, 50.8%) were at least 60 years old. Most of the participants were white (393, 84.2%) and female (317, 64.8%), and 202, 44.4%, were not employed. More than half (301, 57.4%) were caregivers for their spouses/partners. About two-thirds (339, 66.2%) were caring for family members who had received their cancer diagnosis within the previous 2 years. Participants' loved ones had breast (89, 17.4%), gastrointestinal (132, 25.8%), hematologic (49, 9.6%), gynecologic (44, 8.6%), thoracic (70, 13.7%), prostate (34, 6.6%), head and neck (39, 7.6%), genitourinary (11, 2.2%), and other (44, 8.6%) cancers [Table 1].

Use of yoga

About two-thirds of the participants (372, 69%) had never practiced yoga. Among those who had practiced yoga, most (101, 60.5%) had done so in the past but stopped after their family member's diagnosis, 60 (35.9%) had continued practicing after the diagnosis, and very few (6, 3.6%) began practicing after their loved one's cancer diagnosis. At the time of survey administration, only (34, 6.3%) of the study participants were currently practicing yoga at least once per week [Table 2].

Interest in practicing yoga

Nearly half of the participants (228, 42.3%) expressed interest in practicing yoga during and/or beyond their loved one's cancer treatment. However, interest varied greatly by past and present yoga experience. Interest was lowest (109, 29.3%) among those who had never practiced yoga, while a large majority of those who had practiced yoga (119, 71.2%) were interested in practicing during or beyond the treatment period [Table 2].

Table 1: Demographic and clinical characteristics of participants (n=539)

Characteristics	n (%)
Age (years)	
<40	82 (21.9)
≥40 and <60	102 (27.3)
≥60	190 (50.8)
Gender	
Female	317 (64.8)
Male	172 (35.2)
Race/ethnicity	
White	393 (84.2)
Nonwhite	74 (15.8)
Ethnicity	
Hispanic	33 (7.2)
Non-Hispanic	368 (80.9)
Prefer not to answer	54 (11.9)
Employment	
Full-time	209 (45.9)
Part-time	44 (9.7)
Not employed	202 (44.4)
Years since relative's cancer diagnosis	
<2	339 (66.2)
2–5	108 (21.1)
>5	65 (12.7)
Cancer type of their relative	
Breast	89 (17.4)
Prostate	34 (6.64)
Thoracic	70 (13.7)
GI	132 (25.8)
Head/neck	39 (7.6)
Hematological	49 (9.6)
GYN	44 (8.6)
GU	11 (2.2)
Others	44 (8.6)
Relation to the patient	
Spouse/partner	301 (57.4)
Mother	45 (8.6)
Father	12 (2.3)
Daughter	75 (14.3)
Son	14 (2.7)
Friend	29 (5.53)
Sibling	22 (4.2)
In-laws	11 (2.1)
Others	15 (2.9)

GYN = Gynecologic, GU = Genitourinary, GI = Gastrointestinal

Some demographic characteristics also predicted interest in yoga. We found no significant bivariate association between interest in practicing yoga and age, race, years since their loved one's cancer diagnosis, and cancer type. However, gender (48.9% of females vs. 29.1% of males; $P < 0.001$) and employment (35.2% unemployed vs. 54.5% part-time vs. 48.8% full-time; $P = 0.006$) were significantly associated with interest in practicing yoga [Table 3]. In the multivariate analysis, gender and

employment were independent predictors of interest in practicing yoga. Compared to males, females were more likely to be interested (odds ratio [OR] = 3.30, 95% confidence interval [CI] = 1.98–5.51, $P < 0.001$), and compared to those who were unemployed, employed full-time and part-time were more likely to be interested in practicing yoga (part-time: OR = 2.58, 95% CI = 1.1–6.18, $P = 0.03$; full-time: OR = 1.77, 95% CI = 1.1–2.01, $P = 0.02$) [Table 4].

Barriers to practicing yoga

Nearly all participants (523, 97%) identified at least one barrier to practicing yoga.

The most frequently identified barriers were lack of time (201, 37.3%) and psychological/emotional obstacles (182, 33.8%), with about a third of all participants selecting these two items. More than half of those who practiced before their loved one's diagnosis and stopped (57, 56.4%), identified lack of time as a barrier to yoga practice. Medical/physical issues also affected a sizeable minority of participants (93, 17.3%). About a quarter of those who had never practiced also lacked awareness of yoga's benefits (99, 26.6%). Barriers among various subgroups, including those who never practiced, practiced before diagnosis and stopped, practiced before and after diagnosis, and began practice after their loved one's cancer diagnosis, are presented in Table 2.

Discussion

Our study identified novel insights into family caregivers' experiences of, interest in, and barriers to yoga practice. We found that few caregivers were practicing yoga when it could be highly beneficial after their loved one was diagnosed with cancer, a time of profound psychological distress. Notably, this finding cannot be explained by lack of interest. On the contrary, caregivers' interest in practicing yoga was moderately high (42.3%), which is consistent with the global rise in the interest in yoga for mental health issues.^[39]

The study revealed that many family caregivers are not practicing yoga despite a desire to do so. These findings indicate that they face powerful barriers to initiating or maintaining yoga practice after their loved ones' cancer diagnosis. Indeed, other studies have explored potential barriers to caregiver participation in integrative medicine and physical activity interventions.^[32,40-42] It is, therefore, essential that interventions aimed at reducing caregivers' psychological distress through yoga identify and address these multiple barriers.

Our data shed new light on these barriers. A major barrier faced by caregivers in our study was lack of time for yoga practice, especially among those who had practiced before their loved one's diagnosis and stopped. Caregivers

Table 2: Experience with, interest in, and barriers to yoga practice (n=539)

	Not currently practicing yoga		Currently practicing yoga		Total, n (%)
	Never practiced (n=372), n (%)	Stopped practicing after diagnosis (n=101), n (%)	Began practicing after diagnosis (n=6), n (%)	Practiced before and after diagnosis (n=60), n (%)	
Interested in practicing yoga during and/or beyond loved one's treatment	109 (29.3)	69 (68.3)	6 (100)	44 (73.3)	228 (42.3)
Barriers to yoga practice					
Not enough time/too busy	113 (30.4)	57 (56.4)	1 (16.7)	30 (50)	201 (37.3)
Emotional and psychological issues	117 (31.5)	40 (39.6)	3 (50)	22 (36.7)	182 (33.8)
Difficulty remaining disciplined	49 (13.2)	18 (17.8)	2 (33.3)	11 (18.3)	
Difficulty getting motivated	58 (15.6)	20 (19.8)	-	10 (16.6)	
Sadness	10 (2.7)	2 (1.9)	1 (16.7)	1 (1.6)	
Not aware of yoga's benefits	99 (26.6)	2 (1.9)	1 (16.7)	3 (5)	105 (19.5)
Physical and medical barriers	72 (19.3)	9 (8.9)	1 (16.7)	11 (18.3)	93 (17.3)
Symptoms (pain, fatigue, nausea, etc.)	26 (7)	4 (3.9)	-	2 (3.3)	
Poor physical balance	33 (8.9)	3 (2.9)	1 (16.7)	5 (8.3)	
Surgical complications	11 (3)	1 (1)	-	2 (3.3)	
My doctor told me not to exercise	2 (0.5)	1 (1)	-	2 (3.3)	
Lack of financial resources	16 (4.3)	5 (4.9)	-	7 (11.7)	28 (5.2)
No studios close to where I live	25 (6.7)	7 (6.9)	-	5 (8.3)	37 (6.7)
Lack of safe environment	1 (0.3)	-	-	1 (1.6)	2 (0.4)
Other challenges	12 (3.2)	13 (12.9)	-	1 (1.6)	26 (4.8)

have multiple roles and often juggle job and family responsibilities with caregiving.^[40] Hence, time becomes a common barrier to both physical activity and integrative medicine usage.^[32,40] Technology-based interventions may promote caregivers' access to yoga and other beneficial services. Virtual yoga, whether through online classes, on-demand videos, or health apps, can provide flexible, easy access to yoga instruction. Internet-based mind-body programs, including yoga, have been shown to be feasible, acceptable, and responsive to caregivers' health concerns.^[43-45] In addition, there are opportunities to reach caregivers when they accompany patients to appointments and treatments. Cancer centers should consider offering brief yoga interventions in proximity to waiting rooms and chemotherapy suites or offer yoga classes for both patients and caregivers.

Another key barrier identified in our study was lack of knowledge. In particular, caregivers with no prior yoga experience were frequently unaware of how yoga could benefit them. This finding underscores those of other studies: despite the robust evidence base for yoga, and its inclusion in multiple clinical guidelines for the management of depression, anxiety, and distress,^[30,31] many people with cancer and their caregivers still lack awareness of the benefits of yoga.^[32,34,37] To improve the uptake of yoga among distressed family caregivers, educational interventions that focus on disseminating the benefits of yoga for improving mental health as well as clarifying misconceptions about yoga are needed. Moreover, educational efforts by health-care providers can also help overcome this critical barrier. A study

by Larbi *et al.*^[32] found that when recommended by a medical professional, interest in integrative medicine modalities, including yoga, increased by more than 10% among people with cancer and their caregivers. Clinicians should discuss these issues with patients and caregivers and assist them in considering yoga for their psychological needs.

Many caregivers in our study reported facing psychological or emotional obstacles, such as lack of motivation, lack of discipline, and sadness. Psychological distress might lead to low motivation among caregivers. This finding reveals a tragic irony, in which distress impedes access to yoga's distress-relieving benefits. Caregivers' inability to participate in self-care practices thus exacerbates their poor mental health outcomes. It may also affect patient care, as poor mental health of caregivers can impact overall patient care,^[46] further emphasizing the need for pragmatic ways to support caregiver stress management.

Our study had several limitations. Since we relied on self-report, social desirability and recall bias may be present. We also evaluated perceived barriers, which may differ from actual barriers. Further, we only assessed barriers from the perspective of caregivers. Provider or institutional barriers to yoga practice likely also exist. Moreover, the majority of our study participants were white, and our study was completed at five suburban satellite locations of an urban academic cancer center. Hence, our study results may not be generalizable to other demographic groups or practice settings.

Table 3: Demographic and clinical characteristics of participants and interest in yoga

	Interested in yoga, n (%)	P
Total	228 (42.30)	
Age (years)		
<40	37 (45.10)	0.27
≥40 and <60	52 (51.00)	
≥60	78 (41.10)	
Gender		
Female	155 (48.90)	<0.001
Male	50 (29.10)	
Race/ethnicity		
White	157 (39.90)	0.336
Nonwhite	34 (45.90)	
Employment		
Full-time	102 (48.80)	0.006
Part-time	24 (54.50)	
Not employed	71 (35.20)	
Years since relative's cancer diagnosis		
<2	150 (44.30)	0.52
2–5	41 (38.00)	
>5	28 (43.10)	
Cancer type of relative		
Breast	33 (37.10)	0.13
Prostate	12 (35.30)	
Thoracic	24 (34.30)	
GI	66 (50.00)	
Head/neck	20 (51.30)	
Hematological	26 (53.10)	
GYN	20 (45.50)	
GU	5 (45.50)	
Others	14 (31.80)	

GYN = Gynecologic, GU = Genitourinary, GI = Gastrointestinal

Table 4: Multivariate model of factors associated with interest in yoga

	Interest in yoga		P
	AOR	95% CI	
Age (years)			
<40	-		
≥40 and <60	1.40	0.71–2.76	0.33
≥60	1.13	0.62–2.1	0.69
Gender			
Male	-		
Female	3.30	1.98–5.51	<0.001
Employment			
Unemployed	-		
Full-time	1.77	1.1–2.91	0.02
Part-time	2.58	1.1–6.18	0.03

AOR = Adjusted odds ratio, CI = Confidence interval

Conclusion

To our knowledge, this is the first study to examine yoga views and experiences among family caregivers of people

with cancer. Despite strong interest, very few caregivers practice yoga after their loved one's cancer diagnosis, when they could benefit the most. This is unsurprising given the numerous barriers they face related to yoga practice. Our data highlight the powerful impact of real and perceived barriers to utilization of self-care services, further impacting caregivers' health and well-being. Effective yoga interventions to address the psychological burden of caregiver population must, therefore, include strategies to overcome these barriers so that caregivers may derive the benefits of yoga and ultimately integrate it into a regular practice.

Ethical statement

The Institutional Review Board at Memorial Sloan Kettering Cancer Center approved the use of de-identified data for the research study.

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Conflicts of interest

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