


Use of Mindfulness Sitting Meditation in Chinese American Women in Treatment of Cancer

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Abstract

Background. Very few studies have been conducted to examine the prevalence, frequency, perceived effectiveness, and possible influencing factors of use of meditation in patients with cancer. **Objectives.** To examine use of mindfulness sitting meditation (MSM) in Chinese American women in treatment of cancer, its relationship to specific symptom distress, and possible influencing factors of MSM. **Methods.** Volunteer participants were recruited through the American Cancer Society support groups. The participants completed a demographic data form, a researcher-developed criteria and checklist for MSM, and the Memorial Symptom Assessment Scale–Short Form. **Results.** Eighty-nine Chinese American women with a mean age of 58 years completed the questionnaires. Twenty-one patients (24%) reported the use of MSM during active treatment of cancer. Patients who had higher education, better income, better English proficiency, and health insurance were more likely to use MSM. Patients who had more symptom distress also reported to use more MSM. Most patients (20/21) who used meditation considered it effective. After controlling other variables, better English proficiency, breast cancer, and higher symptom distress predicted the use of MSM in Chinese American women in treatment of cancer. **Conclusions.** About 24% of Chinese American women used MSM in the treatment of cancer and most of them considered it effective. Symptom distress and English proficiency levels predicted the use of MSM. **Implications for Practice.** Given the effectiveness of MSM, oncology nurses could recommend using MSM in Chinese American women in treatment of cancer, especially for patients who had higher symptom distress.

Keywords

mindfulness meditation, Chinese American, cancer, symptom distress, women

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Introduction

Cancer and its treatment often affect all dimensions of human health and can result in multiple physical and psychological symptoms including fatigue, nausea, depression, anxiety, pain, and so on.^{1–3} Complementary and alternative therapies (CAM) may help with the management of multidimensional aspects of these impairments.^{4–6} Compared to the general US population, Chinese Americans have reported more frequent use of CAM, which includes Chinese herbal medicine, acupuncture, Chinese massage (tui na), meditation, tai chi, and yoga, to help manage their symptoms.^{7,8} In general, females are more frequently associated with CAM use compared to males.^{9,10} As such, Lin and Schinke found that Chinese American women were more likely to use CAM compared to Chinese American men.¹¹

Mindfulness Meditation, one of these commonly used therapies, is a meditative practice that derives from Buddhist traditions and has been utilized in a variety of clinical settings.

According to Kabat-Zinn, a famous teacher of mindfulness meditation, “Mindfulness means paying attention in a particular way; on purpose, in the present moment, and nonjudgmentally.”¹² Mindfulness involves acceptance, meaning that participants pay attention to their own thoughts and feelings without judgment—without believing, for instance, that there’s a “right” or “wrong” way to think or feel in a given moment.¹³ This is achieved through the development of what Buddhist philosophy refers to as “detached

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observation” or “bare attention.”¹³ Mindfulness meditation involves 4 forms: awareness of sensations, sitting meditation, body scan, and mindful movement.¹⁴ Mindfulness sitting meditation (MSM) is different from mindfulness meditation in physical movement forms, such as tai chi, qigong, yoga, or mindful walking. Focusing on the physical sensation of breathing during sitting meditation is a common technique and easy to experience for those who are new to mindfulness meditation.¹⁴

Sitting meditation, as the main or only content of multiple medication interventions, has been widely used in chronic illness management. Multiple researches have reported the use of sitting meditation in patients with chronic heart failure, diabetes, HIV/AIDS, and rheumatoid arthritis, among other conditions.¹⁵⁻¹⁸ In patients with cancer, sitting meditation is used to alleviate symptoms or treatment-related side effects. For example, pranic meditation, which is practiced in the sitting position, has been found to reduce pain, anxiety, and depression and improve physical and mental well-being and quality of life for patients with breast cancer.^{19,20} Consistent benefits, including improved psychological functioning, reduction of stress-related symptoms, and enhanced quality of life, have been reported in cancer patients who have utilized these practices.¹⁴

Social demographic factors and symptoms have been found to predict CAM use. Gender; marital status; cancer stage; symptom experience such as pain, depression, and insomnia; and symptom distress were found to predict CAM use in patients with cancer.^{7,21} In terms of meditation, greater education and female gender were associated with increased use of mindfulness practice.²² Ethnic differences have been reported with regard to the use of CAM in patients with cancer.²³ Chinese Americans, in particular, have been reported to have high risk for health disparity.^{24,25} However, little is known about influencing factors for the use of meditation in minority groups. As far as we know, our study is the first study to report use of meditation and influencing factors in Chinese American patients with cancer.

The purpose of this study, therefore, is to examine the prevalence, frequency, perceived effectiveness, and possible influencing factors of the use of MSM in Chinese American women with cancer. It is hypothesized that Chinese women with cancer perceive MSM as effective and some sociodemographic factors and symptoms predict use of MSM.

Methods

Design, Setting, and Participants

A descriptive and cross-sectional study was conducted in New York City from September 2012 to May 2013, supported by American Cancer Society Asian Initiatives. Study subjects were recruited through weekly support group programs. Inclusion criteria were that participants had to be

Chinese immigrants or American-born Chinese, female, at least 18 years of age, in active treatment of cancer, residing in New York City, and able to give written informed consent. Participants were excluded if they could not communicate in Chinese or English, or had cognition problems that prevented them from responding to questionnaires.

The institutional review board of Adelphi University approved the study. The bilingual researchers in the study attended weekly meetings of the cancer support groups to distribute the questionnaire and explain the study. The individuals who expressed interest in this study met the researchers on site in person after weekly meetings. After informed consent was obtained, each participant was given the self-administered questionnaires. The questionnaires were available in both Chinese and English, but all participants chose the language of Chinese. A \$10 gift card was given to each participant as an incentive for completing the questionnaire. It took 20 to 30 minutes for the participants to complete the questionnaires.

Measures

Demographic and Clinical Information

Demographic data including age, marital status, education, religion, years in the United States, English proficiency level, annual household income, and health insurance were collected. Clinical data including type of cancer, stage of cancer at diagnosis, and cancer treatments (eg, surgery, chemotherapy and radiation therapy) were collected.

Mindfulness Sitting Meditation

Mindfulness sitting meditation and its effectiveness were assessed using a few questions on the CAM scale checklist developed by the researchers. The Cronbach's α of this checklist was .85 in this study. We assessed sitting meditation in mindfulness meditation only; participants who practiced other CAMs such as tai chi, qigong, or yoga were not included. Before participants completed the questionnaires, the bilingual researchers explained the criteria of MSM to potential participants in a quiet, separate room. MSM criteria included the following: sitting comfortably for at least 10 minutes, focusing on breathing, muscle and logic relaxation, attention to the present, acceptance and being non-judgmental. The criteria were based on definition/features of MSM.^{12,26} The 10-minute length of breathing awareness mindful meditation intervention²⁷ represented the beginning level of mindful meditation and could be practiced by participants themselves without instructions.^{27,28} The questions about use of MSM in the CAM checklist were the following: Have you used MSM in active treatment of cancer (Yes or No)? How frequently did you use it (times per month)? How effective was it? (not effective/a little

effective/somewhat effective/very effective). Tai chi, qigong, yoga, and other mindfulness meditation with physical movements were not considered as MSM in this study.

Symptom Distress

Symptom distress is commonly defined as “the degree of discomfort reported by patients in relation to the perception of the symptoms being experienced.”²⁹ Symptoms were assessed using the Memorial Symptom Assessment Scale–Short Form (MSAS-SF). Participants were asked to rate their symptoms during active treatment of cancer. The MSAS-SF is an instrument in which the participant rates symptom distress associated with 26 physical symptoms and the frequency of 4 psychological symptoms. For physical symptoms, distress is rated on a 5-point Likert-type scale ranging from 0 to 4 (symptom not present; symptom present but no distress; symptom present with a little bit of distress; symptom present with some distress, symptom present with quite a bit of distress, symptom present with very high distress). Frequency of psychological symptoms was scored as rarely (1), occasionally (2), frequently (3), and almost constantly (4). The 3 subscales of the MSAS-SF are the Global Distress Index (4 psychological symptoms: feeling sad, worrying, feeling irritable, and feeling nervous, and 6 physical symptoms: lack of energy, pain, lack of appetite, feeling drowsy, constipation, and dry mouth); the Physical Symptom Distress Scale, which comprises 12 prevalent physical symptoms (lack of energy, pain, lack of appetite, feeling drowsy, constipation, dry mouth, nausea, vomiting, change in taste, weight loss, feeling bloated, and dizziness); and the Psychological Symptom Distress Score, which includes 6 prevalent psychological symptoms (worrying, feeling sad, feeling nervous, difficulty sleeping, feeling irritable, and difficulty concentrating). MSAS-SF has been reported to have validity and reliability in both American and Chinese populations.^{30,31}

Data Analysis

All data analysis was performed using SPSS version 22. Descriptive statistics (means, standard deviations for continuous variables, and frequency distributions and proportions for categorical variables) were employed to describe the participants’ demographic and clinical characteristics. Chi-squared tests for contingency tables were used to examine the relationship between demographic and clinical characteristics and MSM (meditation and nonmeditation group). Frequencies and means were used to describe the effectiveness and frequency of MSM. A Mann-Whitney *U* test was used to evaluate how MSM correlated with symptom distress. Binary logistic regression analysis was applied to examine the predictors of the use of MSM. A power calculation demonstrated that, with a sample size of 78, the study

had a power of >80% to detect an absolute 40% difference in symptom distress at a significance level of .05, using a Mann Whitney *U* test. A difference of at least 40% was estimated to be clinically relevant. Additionally, a sample of 85 patients was used for regression analysis and provided similar power with regard to the study at the same α level ($P < .05$) with an effect size of 0.15. The effect size 0.15 was the medium effect size, using regression analysis that was capable of detecting a difference among groups.³²

Results

Eighty-nine Chinese American women, with a mean age of 58 years, completed the questionnaires. The average length of time from when participants immigrated to the United States was 20 years (with a range from 10 to 30 years). The majority (91%) had a diagnosis of breast cancer and 61% reported early-stage cancer (stage I or II) at diagnosis. Twenty-one patients (24%) reported using MSM during active treatment of cancer. Participants who used MSM had better English proficiency ($P = .001$), better income ($P = .002$), more education ($P = .041$), and better insurance coverage ($P = .036$) compared to participants who did not use MSM during active cancer treatment. There were no significant differences in age, marital status, religion, years in the United States, type of cancer, site of cancer, stage of cancer at diagnosis, or cancer treatments between the 2 groups. See Table 1 for detailed information.

The frequency of use of MSM (14.6 ± 6) ranged from 6 to 20 times, with an average of 14 times per month. Among 21 patients who used MSM, 3 perceived it to be very effective, 12 perceived it to be somewhat effective, 5 perceived it to be a little effective, and 1 did not perceive it to be effective at all (Figure 1).

Table 2 demonstrates the positive association between the use of MSM and symptom distress. Patients who had more symptom distress on individual symptoms, including lack of energy ($P = .022$), nausea ($P = .006$), feeling drowsy ($P = .001$), difficulty sleeping ($P = .007$), mouth soreness ($P = .018$), itching ($P = .016$), lack of appetite ($P = .005$), numbness and tingling on hand/feet ($P = .009$), change in food taste ($P = .006$), hair loss ($P = .002$), and nervousness ($P = .024$) were more likely to use MSM. In addition, the number of total symptoms ($P = .003$) and MSAS total score ($P < .001$) were positively associated with use of MSM.

Bivariate regression analysis was applied in order to examine possible influencing factors of use of MSM (Table 3). After adjusting for all demographic variables, English proficiency ($P = .002$), cancer type ($P = .034$), and total symptom distress score ($P = .016$) most commonly predicted the use of MSM. Patients who had better English proficiency level, were diagnosed with breast cancer, and had more symptom distress were more likely to use MSM.

Table 1. Demographic and Clinical Characteristics Between the 2 Groups.

	Total Sample (N = 89)		P
	MSM Group (n = 21), n	Non-MSM Group (n = 68), n	
English proficiency			<.001
None	1	18	
Little	3	35	
Fair	7	8	
Good	8	6	
Very good	2	1	
Annual income			<.001
0-9999	5	43	
10 000-29 999	9	20	
30 000-49 999	4	4	
50 000-69 999	1	1	
70 000-89 999	2	0	
Education			.041
Grade school	7	42	
Vocational/technical school	4	10	
College or graduate school	10	16	
Religion			.089
None	4	26	
Christian/Catholic	8	14	
Buddhism/Taoism	9	28	
Marital status			.391
Married/partner	17	58	
Not married (single/separated/divorced/widowed)	4	10	
Insurance			.035
Medicare/Medicaid	10	53	
Private	10	14	
Out of pocket	1	1	
Type of cancer			.094
Breast cancer	19	61	
Other	2	7	
Treatment			.772
Surgery only	3	12	
Chemotherapy and/or radiation	3	10	
Surgery with chemotherapy and/or radiation	15	46	
Stage of cancer at diagnosis			.398
I-II	13	41	
III-IV	8	27	
	Mean ± SD	Mean ± SD	
Age	58.4 ± 7.4	58.1 ± 10.9	.964
Years in the United States	22 ± 9.5	19.4 ± 10.1	.248

Abbreviations: MSM, mindfulness sitting meditation; SD, standard deviation.

Discussion

In this study, we found that approximately 24% of patients used MSM during their cancer treatment in this study. A recent National Health Interview Survey reported that use of meditation in general adult population was approximately 9%.³³ Participants with chronic diseases such as

cancer, diabetes, and arthritis were reported to have used relaxation techniques and other CAMs more than patients without chronic illness.³⁴ Another national survey study found that the number of Asian Americans who used relaxation techniques increased slightly from 16.39% in 2002 to 17.47% in 2007, which was similar to our finding.³⁵ The relatively high percentage of the use of MSM in this study

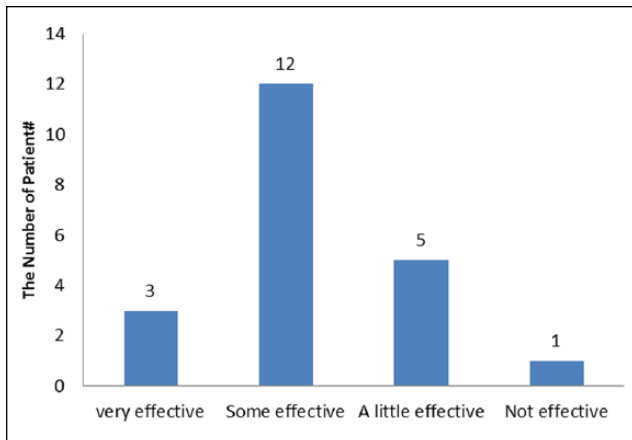


Figure 1. Perceived effectiveness of use of mindfulness sitting medication in Chinese American women in treatment of cancer.

suggested that MSM was a commonly used CAM in Chinese American women with cancer.

In this study, we found that participants who had better English proficiency were more likely to use MSM, after controlling other variables. Mindfulness meditation was rooted in Buddhism around 2500 years ago. Buddhism, as the most popular religion in China, has shaped Chinese culture in a wide variety of areas over the course of approximately 2000 years.³⁶ Surprisingly, however, the English language proficiency level, which is one important indicator of adaptation to Western culture, was found to be a significant predictor of use of MSM in Chinese American women with cancer in this study. One possible reason for the impact of English language proficiency on MSM is that the Chinese population typically does not use meditation in coping with chronic illness. Instead, meditation is replaced with traditional Chinese mind-body techniques such as Taiji and Qigong. In searching the literature, no studies were found in the English language that focus on the Chinese/Chinese American population with regard to the use of meditation in cancer or other chronic illnesses, while many studies have been published on the use of meditation in other populations.³⁷⁻³⁹ On the other hand, many studies about use of Qigong and Taiji in chronic illness in the Chinese population have been published.^{40,41} Chinese American patients with higher proficiency in the English language might be more likely accept MSM than patients with limited English proficiency, as they might have better accessibility to published articles regarding the benefits of meditation, or they might be referred by Western physicians or nurses who have experiences with meditation and, therefore, be more willing to utilize practices, such as MSM, that have become more common in the Western world.

In this study, socioeconomic status (SES) factors including education, income, and insurance coverage were significantly associated with whether or not patients used

MSM. Though these SES factors did not remain significant after controlling other variables, it has been reported in the literature that SES factors do affect the use of meditation. One recent US National Health Interview Survey study found that SES factors were related to engagement in meditation and that greater education was associated with using mindfulness meditation practices.²² Another study reported that patients who were of an older age, female, better educated, and from upper-middle class families were more likely to use meditation.⁴² The reason that we did not find that SES factors predicted the use of MSM in this study might be due to small sample size, or simply that certain symptoms played more important roles than SES factors in predicting use of MSM in these Chinese American women.

Most participants (20/21) in our study who used MSM for treatment of their cancer symptoms considered it to be effective. Previous studies have identified that meditation can relieve multiple symptoms and improve quality of life,^{14,43,44} findings that were consistent with the reported effectiveness of MSM in our study. Since most patients who used MSM reported MSM as effective, oncology physicians and nurses might want to consider recommending that Chinese American women with cancer utilize it more.

To our best knowledge, our study is the first study to report symptom distress as an independent predictor of using MSM in patients with cancer. Previous national survey studies have reported that patients who had chronic illnesses were more likely to use meditation compared to patients without chronic illnesses.³⁴ In a 2002 National Health Interview Survey study, pain, depression, and insomnia were found to be strong predictors of CAM use,⁶ findings that were similar to those from our study. Severe symptom distress was an important impetus for Chinese American women to use MSM in treatment of cancer.

Limitations

The study had several limitations. First, the measurement of MSM was based on the criteria of beginning level of mindfulness meditation. The study did not examine the duration of MSM and the skill levels of participants (novice/intermediate/expert). Though a mindfulness meditation scale was not used to measure MSM in this study, the researchers who collected the data were skilled in mindfulness meditation. During the data collection, the researchers talked with every potential participant to ensure that they met the criteria of MSM. Second, the participants in this study represented a convenience sample and did not represent all Chinese American women with cancer in the United States. Third, the sample size was small, and future studies with bigger sample sizes are needed to verify the results in this study.

Table 2. Mann-Whitney *U* Test: Association Between Meditation and Symptom Distress.

Symptom Distress	MSM Users (n = 21)	Non-MSM Users (n = 68)	Mann- Whitney <i>U</i>	Z	P
Lack of energy	1.88	.90	1.068	2.81	.022
Feeling drowsy	2.07	.91	1.142	3.42	.001
Nausea	1.52	.62	1.117	2.68	.006
Difficulty sleeping	2.10	1.24	1.048	2.56	.007
Numbness and tingling in hands and feet	2.15	1.13	1.053	2.77	.009
Mouth sore	1.67	.74	1.023	2.39	.018
Itching	1.04	.49	1.013	2.34	.016
Lack of appetite	2.00	1.08	1.108	2.63	.005
Change in food taste	1.95	.97	1.069	2.38	.006
Hair loss	2.67	1.30	1.223	3.06	.002
Nervous	2.07	1.38	1.068	2.14	.024
Number of symptoms	18.45	13.45	1.173	2.75	.003
Total symptom distress score	44.89	26.79	1.170	3.16	<.001

Abbreviation: MSM, mindfulness sitting meditation.

Table 3. Logistic Regression Predicting Whether Patients Use Mindfulness Sitting Meditation.

Model	Beta	Wald	P	OR	95% CI
Intercept	-7.411	1.643	.162	0.003	
Age	0.002	0.701	.511	1.023	0.985-1.008
Year of diagnosis	0.005	0.877	.219	1.055	0.987-1.009
Years in the United States	-0.048	1.654	.287	0.874	0.858-1.014
English level	1.585	8.534	.002*	6.327	1.950-15.652
Marital status	-0.172	0.059	.759	0.807	0.286-2.521
Education	-0.318	0.202	.474	0.763	0.291-2.031
Religion	0.389	0.608	.405	1.328	0.569-3.976
Salary	0.201	0.275	.503	1.058	0.549-2.149
Insurance	0.217	0.397	.698	1.401	0.564-2.976
Type of cancer	-1.886	4.695	.032*	0.098	0.007-0.689
Stage of cancer	0.498	2.014	.115	1.694	0.765-3.891
Treatment	-0.755	1.611	.198	0.483	0.171-1.502
Total symptom distress score	0.040	5.821	.016*	1.057	1.011-2.051

Abbreviations: OR, odds ratio; CI, confidence interval.

*English proficiency (P = .002), type of cancer (P = .034), and total symptom distress score (P = .016) significantly predicted whether patients use MSM.

Implications for Clinical Practice and Research

In cancer practice, research on symptoms has been the focus of study for many years and remains a high priority.⁴⁵ We found that most patients in this study perceived MSM to be effective in some way (from little effective to very much effective). The strong relationship between symptom distress and MSM in this study suggested that Chinese American women with cancer have tried to use MSM to

manage symptom distress successfully. This increased use may be due to the growing body of evidence with regard to the benefits of MSM in patients with cancer. Therefore, oncology physicians and nurses who are helping Chinese American patients with symptom management should encourage the use of MSM more, especially for patients who have severe symptom distress. See Figure 2 for guidance of MSM. Given a distressed mind is more difficult to calm without experience, oncology physicians and nurses might introduce MSM practice and refer patients to a

Sit on a comfortable chair in a quiet place for 10 minutes or longer

Focus on breathing only

Focus on the present moment without judgment

Try to enter a state of muscle and logic relaxation

May or may not incorporate music

May or may not close eyes

May or may not sit in Zen position

May practice daily or at your own pace



Figure 2. Guidance about Practice Mindfulness Sitting Meditation.

meditation practitioner before the presence of distress such as before surgery or chemotherapy/radiation therapy so that Chinese American patients with severe symptom distress could practice MSM more effectively.

Similar to other studies, this study found that MSM was associated with SES factors including education, income, insurance coverage, and English proficiency. Participants who had better education, income, and insurance were more likely to use MSM during their cancer treatment. Given the effectiveness of MSM perceived by patients in this study, oncology physician and nurses should encourage not only Chinese American with severe symptom distress but also Chinese American with poor English proficiency level and low SES to practice MSM.

The small number of studies conducted in the United States regarding effectiveness and influencing factors of MSM limits the use of MSM as an intervention for patients with cancer. MSM is a type of CAM that many patients can practice by themselves at home, as it requires little cost and minimal supervision. More studies about use of MSM in cancer treatments are warranted to address the needs of patients with cancer. Future studies should include an emphasis on improved methodologies. For example,

descriptive studies should examine the detailed information of doses, frequency, length of home practice, and skill level of practice and influencing factors of meditation. Studies could also be expanded to include the effect of MSM in different cancers and minority groups.

Declaration of Conflicting Interests

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