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Patient-Physician Communication About Complementary and Alternative Medicine in a Radiation Oncology Setting

Jin Ge, BSE^{*}, Jessica Fishman, PhD^{†,‡}, Neha Vapiwala, MD^{§,||}, Susan Q. Li, MS[¶], Krupali Desai, MD, MPH[¶], Sharon X. Xie, PhD[†], and Jun J. Mao, MD, MSCE^{†,§,¶}

^{*}Perelman School of Medicine at the University of Pennsylvania

[†]Center for Clinical Epidemiology and Biostatistics, University of Pennsylvania

[‡]Annenberg School for Communication at the University of Pennsylvania

[§]Abramson Comprehensive Cancer Center, University of Pennsylvania Health System, Philadelphia, Pennsylvania

^{||}Department of Radiation Oncology, University of Pennsylvania Health System, Philadelphia, Pennsylvania

[¶]Department of Family Medicine and Community Health, University of Pennsylvania Health System, Philadelphia, Pennsylvania

Abstract

Purpose—Despite the extensive use of complementary and alternative medicine (CAM) among cancer patients, patient-physician communication regarding CAM therapies remains limited. This study quantified the extent of patient-physician communication about CAM and identified factors associated with its discussion in radiation therapy (RT) settings.

Methods and Materials—We conducted a cross-sectional survey of 305 RT patients at an urban academic cancer center. Patients with different cancer types were recruited in their last week of RT. Participants self-reported their demographic characteristics, health status, CAM use, patient-physician communication regarding CAM, and rationale for/against discussing CAM therapies with physicians. Multivariate logistic regression was used to identify relationships between demographic/clinical variables and patients' discussion of CAM with radiation oncologists.

Results—Among the 305 participants, 133 (43.6%) reported using CAM, and only 37 (12.1%) reported discussing CAM therapies with their radiation oncologists. In multivariate analyses, female patients (adjusted odds ratio [AOR] 0.45, 95% confidence interval [CI] 0.21-0.98) and patients with full-time employment (AOR 0.32, 95% CI 0.12-0.81) were less likely to discuss CAM with their radiation oncologists. CAM users (AOR 4.28, 95% CI 1.93-9.53) were more likely to discuss CAM with their radiation oncologists than were non-CAM users.

Conclusions—Despite the common use of CAM among oncology patients, discussions regarding these treatments occur rarely in the RT setting, particularly among female and full-time

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Reprint requests to: Dr Jun J. Mao, MD, MSCE, Department of Family Medicine and Community Health, University of Pennsylvania, 3400 Spruce St – 2 Gates, Philadelphia, PA 19104. Tel: (215) 615-4330; Fax: (215) 662-3591; maoj@uphs.upenn.edu.

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employed patients. Clinicians and patients should incorporate discussions of CAM to guide its appropriate use and to maximize possible benefit while minimizing potential harm.

Introduction

Each year, 1.5 million individuals in the United States will receive diagnoses of cancer (1). Despite improved cancer treatments and survival for many patients, those undergoing treatments often experience a variety of side effects, such as fatigue, pain, insomnia, depression, and anxiety (2). Many cancer patients turn to complementary and alternative medicine (CAM) to help alleviate their symptoms and needs that are not met by chemotherapy or radiation therapy (RT) (3). Population-based studies indicate that approximately 40% of cancer patients reported using CAM therapies (4, 5), with higher rates in specific subpopulations, such as in breast cancer patients (6).

Despite the high prevalence of CAM use in oncology settings, the rates of communication between patients and physicians regarding CAM remain low (4, 5, 7-10). Studies of oncology patients' use of CAM have found that 47% to 71% of the patients did not discuss CAM with their physicians (11-13). It is important for physicians to know whether patients use CAM because some CAM treatments contain substances that are harmful for prolonged use or interfere with conventional cancer therapies (14). Furthermore, certain classes of CAM therapies, such as antioxidant supplements, are contraindicated in RT (15), making discussions of CAM even more pertinent in the RT setting.

Very little research, however, has specifically studied patient-physician discussion of CAM in the RT setting (11-13). Thus, the goals of this study were to (1) quantify the proportion of patients who discussed CAM with radiation oncologists, (2) identify the demographic and clinical characteristics associated with discussion of CAM with radiation oncologists; and (3) explore patients' reasons for/against engaging in discussions with their radiation oncologists regarding CAM therapies. Understanding such issues is an important step towards the goal of increasing patient-physician communication to ensure the safe and effective integration of CAM in the RT setting.

Methods and Materials

Study population

We conducted a cross-sectional survey study at the Department of Radiation Oncology at the Hospital of the University of Pennsylvania (Philadelphia, PA). Potential participants included patients aged 18 or older, with a primary diagnosis of cancer, who were eligible to have RT for a documented cancer in an outpatient setting, who were more than 14 days postoperative if the patient had surgery (standard for RT), and had a Karnofsky functional score of 60 or greater. Patients receiving palliative RT, those with a known brain tumor or abnormal neurologic function, and those who were unable to understand the requirements of the study were excluded. Research assistants obtained permission from the treating radiation oncologists, screened medical records, and then approached potential participants about the study during their last week of radiation treatment visit. Once informed consent was obtained, each participant was given a self-administered survey. All protocols and surveys were reviewed and approved by the University of Pennsylvania Institutional Review Board and the Abramson Comprehensive Cancer Center Scientific Review and Monitoring Committee.

Measurements

Interviewers first asked patients whether they had used CAM since their cancer diagnosis, using a previously developed instrument (16) based on the following 13 categories: acupuncture, chiropractic, diet, energy healing, expressive arts, herbs, homeopathy, massage, relaxation techniques, nondaily vitamins, yoga, tai chi, and other. CAM use was then dichotomized (yes/no) with a response of “yes” to use of at least 1 modality. Discussions of CAM therapies with radiation oncologists were assessed by the survey question “Did you tell your radiation oncologist about your CAM use?” and measured as a dichotomous variable (yes/no). To gauge CAM recommendations, if any, from the radiation oncologists, participants were also asked “Has your radiation oncologist ever recommended any CAM for you to manage your symptoms?” and “Has your radiation oncologist ever recommended against any CAM for you to manage your symptoms?” To understand patients’ communication with other physicians, we asked individuals: “Have you discussed complementary and alternative medicine usage with any of the following doctors? Please check all that apply.” Options included medical oncologists, surgeons, primary care physicians, other physicians, and “none.”

To identify patients’ reasons for or against CAM discussion with physicians, we developed a list of response options based on those previously used by Sleath et al (17) and modified through cognitive testing with 12 patients during the survey pilot phase, when participants commented on the content and clarity of the options. Patients who stated that they did not discuss CAM with their radiation oncologists were asked to select 1 or more of the following (non-mutually exclusive) response options: “I do not use nor plan to use complementary and alternative medicine,” “I have not talked with him/her but plan to talk with him/her in the near future,” “I don’t believe he/she knows enough about the therapies to advise me,” “There is no reason to tell him/her,” “I don’t think he/she would want to know,” “It’s none of his/her business,” and “I do not think he/she would approve.”

Similarly, patients who stated that they did discuss CAM therapies with their radiation oncologists were asked to select 1 or more of the following (non-mutually exclusive) response options: “I want to know more about the therapy,” “I will only take or do something with his/her approval,” “I prefer to have his/her approval,” “I am concerned about drug interactions,” “I am concerned the therapy may jeopardize my health,” and “I want my doctor to be fully informed about my help.”

Patients self-reported the following demographic data: age, sex, race/ethnicity, marital status, employment status, and education level. Clinical variables, such as tumor type, stage, treatment regimen, and treatment status, were derived through chart abstraction. Because previous studies of CAM communication in rheumatology patients had suggested that physicians’ communication styles may influence discussion rates, we also measured perception of the radiation oncologist’s participatory decision making style, using a previously validated instrument(17, 18).

Analyses

All analyses were performed with STATA 10.2 (StataCorp, College Station, TX). Standard descriptive statistics were used to report demographic and clinical variables and study outcomes. Patient characteristics were evaluated by use of χ^2 analysis in relation to the dichotomous measure of whether CAM was discussed. We chose demographic and clinical variables associated with CAM discussion outcomes at alphas less than 0.20 in bivariate analyses for the multivariate logistic regression models. Two multivariate logistic regression models were developed: 1 with sex and another with cancer types, because cancer type and sex had mutual exclusivity in specific categories (for example, prostate cancer affects only

men). Goodness of fit test was conducted, and there was no evidence of lack of fit for both multivariate models. All analyses were 2-sided, with alpha less than 0.05 indicating statistical significance.

Results

Between July 2009 and July 2010, 380 patients were approached for enrollment into the study. Of those approached for enrollment, 324 (85.3%) agreed to participate. Among the 56 (14.7%) who declined, the main reasons were as follows: 47 (12.4%) did not want to participate in research, and 9 (2.4%) reported feeling too sick on the day of the survey. Nine patients withdrew consent, and 10 did not return a completed survey questionnaire, resulting in the final sample of 305 patients and a final response rate of 80.3%.

Study population demographics and CAM use

The demographic and clinical characteristics of the study population are presented in Table 1. The 305 participants were aged from 18 to 87 years (mean 59.8, standard deviation 12.0). One hundred sixty (52.5%) patients were male; 231 (75.7%) were white, and 74 (24.3%) were nonwhite (19.7% were black/ African-American, 2.6% Asian, and 0.7% Hispanic/ Latino; 1.3% reported “other”). Fifty-four patients (17.8%) had diagnoses of prostate cancer, 60 (19.7%) of breast cancer, and 191 (62.6%) of nonbreast and nonprostate forms of cancer. One hundred thirty-three patients (43.6%) reported ever having used 1 or more of the 13 CAM modalities. Among the whole sample, the 5 most popular CAM modalities used were as follows: vitamins other than daily vitamins (23.4%), relaxation techniques (15.5%), herbs (14.5%), special diet (10.2%), and massage (9.2%).

CAM communication with radiation oncologists

Among all participants, 37 (12.1%) patients reported having discussed CAM therapies with their radiation oncologists. Twenty-eight (9.2%) patients reported that their radiation oncologists recommended CAM, and 11 (3.6%) reported that their radiation oncologists recommended against CAM. In addition, 34 patients (11.1%) reported discussing CAM therapies with their medical oncologists, 18 (6.0%) with primary care physicians, 14 (4.6%) with surgeons, and 9 (3.0%) with other physicians. Overall, 66 (21.6%) patients reported having discussed CAM therapies with at least 1 type of physician.

Patients who used CAM were also more likely to discuss CAM use with their radiation oncologists than were non-CAM users (20.3% vs 6.0%, $P<.001$). Patients who were employed full-time discussed CAM with their radiation oncologists at a lower rate compared with part-time and unemployed patients (5.7% vs 15.2%, $P=.016$). Compared with all other patients, breast cancer patients had the lowest rate of CAM communication with their radiation oncologists (3.3%), and prostate cancer patients had the highest rate of CAM communication with their radiation oncologist (25.9%), $P=.001$. The patient's perception of the radiation oncologist's participatory decision making style was not associated with whether or not CAM therapies were discussed.

Adjusting for relevant covariates in our analysis of factors associated with CAM discussion outcomes, we found that female patients (adjusted odds ratio [AOR] 0.45, 95% confidence interval [CI] 0.21-0.98) and patients with full-time employment (AOR 0.32, 95% CI 0.12-0.81) were less likely to discuss CAM with their radiation oncologists. CAM users (AOR 4.28, 95% CI 1.93-9.53) were found to be more likely to discuss CAM with radiation oncologists. In the multivariate regression model with cancer type, using patients with nonbreast cancers and non-prostate cancers as a reference, we found that breast cancer patients (AOR 0.10, 95% CI 0.013-0.81) were less likely and prostate cancer patients (AOR

3.08, 95% CI 1.32-7.20) more likely to discuss CAM with their radiation oncologists (Table 2).

Reasons for and against CAM communication with radiation oncologists

Among the 37 patients who discussed CAM therapies with their radiation oncologists, the top 5 rationales for discussion, in descending order, were as follows: 20 (54.1%) “I am concerned about drug interactions,” 20 (54.1%) “I want my doctor to be fully informed about my health,” 15 (40.5%) “I want to know more about the therapy,” 14 (37.8%) “I will only take or do something with his/her approval,” and 14 (37.8%) “I prefer to have his/her approval.” Among the 264 patients who reported not discussing CAM therapies with their radiation oncologists, the top 5 rationales for lack of discussion were as follows: 139 (52.7%) “I do not use nor plan to use CAM,” 59 (22.3%) “I do not think he/she would want to know,” 30 (11.4%) “I have not talked with him/her but plan to,” 21 (8.0%) “I do not believe he/she knows enough about the therapies to advise me,” and 18 (6.8%) “There’s no reason to tell the doctor” (Table 3).

Discussion

Although CAM use by cancer patients is extensively documented, research on patient-physician communication regarding CAM in oncology settings is currently very limited. Our study of 305 RT outpatients found that 43.6% of patients used CAM, but only 12.1% of all patients discussed CAM therapies with radiation oncologists despite multiple opportunities for interactions at the initial consultation and throughout the RT treatment course. Furthermore, we found that women and patients with full-time employment were less likely to discuss CAM with radiation oncologists. This low rate of communication of CAM in radiation oncology is of concern, especially given that although some CAM therapies may be beneficial, such as acupuncture for radiation-induced fatigue and xerostomia (19, 20), others are specifically contraindicated and limit the effectiveness of RT (15, 21).

Our rate of patient-physician CAM communication is similar to those in other studies conducted among general oncology patients (8, 22) but lower than those reported in other patient populations (11-13, 17, 23). Patients’ most popular rationales for discussing CAM therapies with radiation oncologists (ie, “desire for their doctors to be fully informed,” “concerns about drug interactions,” and “more information about the therapy”) were similar to findings in rheumatology patients in the United States and RT patients in Thailand (11, 17).

Among the patients in our study who did not discuss CAM with their radiation oncologists, the most commonly cited rationale was “I do not use nor plan to use CAM.” This suggests that for a significant proportion of patients, extensive CAM communication in the radiation oncology setting may not be warranted, although it may be useful for these patients to know that some CAM therapies may be beneficial. The second most common reason was, however, “I don’t think he/she would want to know.” For these patients, physicians may need to take the initiative to ask about CAM therapies so that patients feel they have permission to discuss these topics with their physicians. Thus, A simple screening question about patients’ existing or intentions for CAM use may be sufficient to filter out patients who have no interest in CAM. In addition, the use of a simple screening question may allow those who wish to discuss CAM to have the opportunity to disclose information and seek advice from their radiation oncologists.

Advising patients who use CAM, however, still represents a significant challenge for many physicians (24, 25). In particular, it has been suggested that physicians frequently receive questions about CAM treatments but feel uncomfortable discussing them because of to their

lack of knowledge about the subject. Improvements in undergraduate and graduate medical education may help alleviate physicians' discomfort related to answering questions about CAM (26). Given the relatively high rates of CAM use by oncology patients, radiation oncologists need to incorporate CAM discussions to elicit patient preferences for and expectations of possible CAM use (27, 28).

To our knowledge, our study is the first to find that women were less likely to discuss CAM with their radiation oncologists. Previous reports have described sex-linked differences associated with communication content and style in medical settings (29, 30). Inasmuch as CAM is not integrated in conventional medical settings, women may feel less comfortable than men about initiating discussions about CAM. This finding opens the possibility of sex-specific interventions if different beliefs influence male and female patients' decisions to discuss CAM. Future research should, therefore, focus on understanding how sex influences rates of CAM discussions and on designing interventions that can effectively increase communication about CAM for both men and women in the RT setting.

There are several important limitations to this study. First, communication rates were self-reported, and there could have been potential recall bias. Alternative methods of measuring communication, such as video and audio recordings, may offer better assessments of communication content. Second, as with any study, rates of nonresponse may introduce selection bias. However, our response rate exceeded 80%, suggesting that the potential for bias is not large. Third, our study focused on communication with physicians and did not ask about other health care providers such as nurses, nurse practitioners, and social workers, who may also be important in facilitating communication about CAM therapies in oncology settings. Last, this study was conducted in an urban academic medical center among patients undergoing radiation treatment, and the findings may not be generalizable to cancer patients in other settings.

Despite these limitations, this is the largest study of CAM communication to date among cancer patients in a radiation oncology setting. Given the relatively high prevalence of CAM use by oncology patients and the exceedingly low rates of discussion about CAM, research is needed to further elucidate the beliefs explaining why patients and physicians are reluctant to discuss CAM so that strategies can be designed to change these beliefs and successfully integrate this type of communication into care. Ultimately, by actively engaging patients to make informed decision about using or not using CAM, physicians can help patients realize the possible benefits and minimize the potential harms from these therapies. Doing so has great potential to promote health and wellbeing during and beyond cancer treatment.

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Table 1

Demographic and clinical characteristics of participants by patients' discussions of CAM therapies with RO (n=305)

Demographic and clinical variables	No. of participants (% of total)	No. of patients who discussed CAM with their ROs	%*	P value†
Total	305 (100%)	37	12.1%	
Age (y)				.30
<55	92 (30.2%)	11	12.0%	
55-65	118 (38.7%)	18	15.3%	
>65	95 (31.1%)	8	8.4%	
Sex				.20
M	160 (52.5%)	23	14.4%	
F	145 (47.5%)	14	9.7%	
Race/ethnicity				.10
White	231 (75.7%)	24	10.4%	
Nonwhite‡	74 (24.3%)	13	17.6%	
Educational level				.28
High school or less	88 (28.9%)	12	13.6%	
College	150 (49.2%)	14	9.3%	
Graduate or professional school	67 (22.0%)	11	16.4%	
Employment				.016
Not full-time employed	191 (62.6%)	29	15.2%	
Full-time	106 (34.8%)	6	5.7%	
Marital status				.74
Not currently married	106 (34.8%)	12	11.3%	
Married/partnered	199 (65.2%)	25	12.6%	
Self-reported rating of general health				
Excellent	49 (16.1%)	4	8.2%	
Very good	88 (28.9%)	9	10.2%	
Good	95 (31.1%)	16	16.8%	
Fair	51 (16.7%)	5	9.8%	
Poor	18 (5.9%)	2	11.1%	
Cancer type				.001
Other cancers§	191 (62.6%)	21	11.0%	
Prostate cancer	54 (17.7%)	14	25.9%	
Breast cancer	60 (19.7%)	2	3.3%	
Cancer stage				.92
I	73 (23.9%)	9	12.3%	
II	73 (23.9%)	7	9.6%	
III	77 (25.2%)	10	13.0%	
IV	58 (19.0%)	7	12.1%	
Surgery				.37
No	152 (49.8%)	21	13.8%	

Demographic and clinical variables	No. of participants (% of total)	No. of patients who discussed CAM with their ROs	%*	P value [†]
Yes	152 (49.8%)	16	10.5%	
Chemotherapy				.33
No	145 (47.5%)	20	13.8%	
Yes	158 (51.8%)	16	10.1%	
CAM use				<.001
No	169 (55.4%)	10	5.9%	
Yes	133 (43.6%)	27	20.3%	
Participatory decision making score				.72
<70	198 (64.9%)	25	12.6%	
70	90 (29.5%)	10	11.1%	

Abbreviations: CAM = complementary and alternative medicine; RO = radiation oncologist.

* Percentage of patients reporting CAM discussions with RO in a specific demographic category.

[†]Based on χ^2 test.

[‡]19.7% black/African-American, 2.6% Asian, 0.7% Hispanic/Latino, 1.3% reported "other."

[§]18.0% head/neck, 15.1% gastrointestinal, 13.4% lung, 16.1% genitourinary/skin/other

Table 2

Factors associated with patients' willingness to discuss CAM with their radiation oncologists

Demographic and clinical variables	Univariate analysis		Logistic model 1 multivariate analysis		Logistic model 2 multivariate analysis	
	OR (95% CI)	P value	AOR (95% CI)	P value	AOR (95% CI)	P value
Sex						
M	1		1			
F	0.63 (0.31-1.28)	.20	0.45 (0.21-0.98)	.045		
Race/ethnicity						
White	1		1		1	
Nonwhite*	1.83 (0.88-3.81)	.11	1.48 (0.65-3.37)	.35	1.49 (0.63-3.50)	.36
Employment						
Not full-time	1		1		1	
Full-time	0.34 (0.14-0.84)	.020	0.32 (0.12-0.81)	.017	0.30 (0.11-0.80)	.016
Cancer type						
Other cancers	1				1	
Prostate cancer	2.82 (1.32-6.02)	.007			3.08 (1.32-7.20)	.009
Breast cancer	0.28 (0.063-1.22)	.090			0.10 (0.013-0.81)	.031
CAM use						
No	1		1		1	
Yes	4.02 (1.87-8.66)	<.001	4.28 (1.93-9.53)	<.001	4.72 (2.08-10.71)	<.001

Abbreviations: AOR = adjusted odds ratio; CAM = complementary and alternative medicine; CI = confidence interval; OR = odds ratio.

* Predominantly black/African-American.

Table 3

Patients' rationales for CAM discussion or nondiscussion

	n	%
Total number of patients who discussed CAM with their ROs	37	
Rationale(s) of those who talked to ROs about CAM		
I am concerned about drug interactions	20	54.1%
I want my doctor to be fully informed about my health	20	54.1%
I want to know more about the therapy	15	40.5%
I will only take or do something with his/her approval	14	37.8%
I prefer to have his/her approval	14	37.8%
I am concerned that the therapy may jeopardize my health	6	16.2%
Total number of patients who did not discuss CAM with their ROs	264	
Rationale of those who did not talk to ROs about CAM		
I do not use nor plan to use CAM	139	52.7%
I do not think he/she would want to know	59	22.3%
I have not talked with him/her but plan to	30	11.4%
I do not believe he/she knows enough about the therapies to advise me	21	8.0%
There's no reason to tell him/her	18	6.8%
It is none of his/her business	16	6.1%
I do not think he/she would approve	3	1.1%

Abbreviations: CAM = complementary and alternative medicine; RO = radiation oncologist.