

Perceptions of Complementary and Alternative Medicine among Cancer Patients and their Family Members (KCSG PC21-19)

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ABSTRACT

Introduction: We conducted a study to identify factors associated with the use of complementary and alternative medicine (CAM) among cancer patients and their family members.

Materials and Methods: A survey was conducted among cancer patients and their family members in 19 oncology centers across South Korea, which included questions about clinical characteristics, attitudes and behavior toward CAM, experience with antihelminth drugs, information acquisition, and understanding and use of electronic health-related information.

Results: Patients with cancer (1804) and family members (768) completed the survey across 19 oncology centers; 42% (761/1804) participants reported using CAM and 11.3% (54/1804) reported using antihelminthics. The most commonly used type of CAM was biologically based therapies (55%). In a forward regression model, the presence of insurance for cancer treatment; insurance coverage of >90% of treatment costs; a positive perception of, self-confidence in knowledge of, and interest in CAM; prior knowledge of using antihelminthics for cancer treatment; Internet-based health information seeking behavior; diagnosis of breast and head and neck/esophageal cancers, obtaining information about CAM from SNS, and discussing CAM with a physician were all remarkably associated with CAM use; 58% of CAM users reported discussing with their physician regarding CAM efficacy, side effects, drug interactions, and usage. The most commonly cited reason for not consulting a physician was their negative attitude toward CAM use.

Conclusions: A positive perception and interest in using CAM were strong predictors of CAM use among cancer patients. It is important to provide patients with accurate and relevant information about CAM.

INTRODUCTION

The use of complementary and alternative medicine (CAM) in patients with cancer is increasing (1). Moreover, the use of unlicensed chemical products has increased since the fenbendazole issue in 2019 (2). Our previous survey showed that using CAM was significantly associated with patients' belief in the effectiveness and safety of CAM (3). We conducted the survey to explore the attitude and behaviors of using CAM, e-literacy, and associated factors.

METHODS AND MATERIALS

Study Design & Study Population

Cross-sectional surveys among patients with cancer and their family members were conducted in 19 hospitals in Korea. The sample size of cancer patients is calculated as 1,534 with a 95% confidence level and a standard error of 2.5% based on the KOSIS 2018 cancer prevalence with the considering dropout rate of 10%. Family members of 50% of the cancer patients were surveyed simultaneously.

Data collection

The questionnaire is a 25-item questionnaire that has been used in a previous study (4). **Statistical analysis** Descriptive analyses were performed to summarize the baseline characteristics of the patients. Categorical variables were presented as frequencies and percentages. Comparisons of categorical variables were performed using Pearson's chi-square test or Fisher's exact test, as appropriate. Continuous variables are presented as median values with interquartile ranges (IQR), and the Mann-Whitney U test was conducted for comparisons of continuous variables. We used multiple logistic regression analysis to identify the association of using antihelminthics. Variables with a p-value < 0.05 in the univariable analysis, age, and sex entered the multivariable logistic regression model. All statistical analyses were conducted using PASS/SPSS software, version 26 (IBM Inc., Chicago, USA). A two-sided significance level of 0.05 was used to indicate statistical significance.

Ethical statement

This study was approved by the institutional review board (IRB) at Chungnam National University Sejong Hospital (IRB No. 2021-07-002). Written informed consent was waived by IRB because the survey did not collect personally identifiable information.

RESULTS

Between Sept. 23rd, 2021, and Jan. 10th 2022, 1808 patients and 791 family members complete the survey and 1804 patients, and 768 family members were available for analysis; 42% (761/1804) experienced CAM and 11.3%(54/1804) experienced anti-helminths. The most common type of CAM was biologically based therapies (55%).

Table 1. Baseline characteristics

	CAM usage		p-value
	Non-user (n = 1041)	User (n = 761)	
Age, mean, (SD)	63.3, (12.2)	61.0, (11.7)	<0.001
Sex, n (%)			
Male	606 (58.1)	360 (47.3)	<0.001
Female	437 (41.9)	401 (52.7)	
Region, n (%)			
Seoul, Metropolitan areas	459(44.0)	328(43.1)	0.701
Others	584(56.0)	433(56.9)	
Education, n (%)			
less than a college degree	754 (72.3)	532 (69.9)	0.269
College degree or higher	289 (27.7)	229 (30.1)	
Health Insurance, n (%)			
National Health Insurance	972 (93.2)	714 (93.8)	0.592
Medical aid, Type 1&2	71 (6.8)	47 (6.2)	
Duration of disease (months), mean, (SD)	29.6 (40.5)	41.6 (48.7)	<0.001
Diagnosis, n (%)			<0.001
Gastrointestinal cancer	287 (27.5)	220 (28.9)	
Breast cancer	110 (10.5)	157(20.6)	
Lung cancer	194 (18.6)	94 (12.4)	
Hepatobiliary pancreatic cancer	121 (11.6)	107 (14.1)	
Head and neck cancer	58 (5.6)	49 (6.4)	
Lymphoma and hematologic malignancies	93 (8.9)	37 (4.9)	
Genito-urinary cancer	78 (7.5)	49 (6.4)	
Others	102 (9.8)	48 (6.3)	
Metastasis, n (%)			
Yes	549 (52.6)	439 (57.7)	0.033
No	494 (47.4)	322 (42.3)	
Anti-cancer Treatment (multiple), n (%) - multiple			
Surgery	584 (56.0)	495 (65.0)	
Chemotherapy	895 (85.8)	703 (92.4)	
Radiation therapy	202 (19.4)	207 (27.4)	
Concurrent chemoradiation therapy	115 (11.0)	83 (10.9)	
Hormone therapy	30 (2.9)	82 (10.8)	
Palliative therapy	45 (4.3)	19 (2.5)	
Et cetera	16 (1.5)	8 (1.1)	
no treatment	29 (2.8)	3 (0.4)	
ECOG PS, n (%)			
0	509 (48.8)	338 (44.4)	0.065
1-4	534 (51.2)	423 (55.6)	
Private insurance, n (%)			
No	664 (63.7)	567 (74.5)	<0.001
Yes	379 (36.3)	194 (25.5)	
Covering medical expenses with private insurance, n (%)			
No	519 (49.8)	339 (44.5%)	0.029
Yes (90% or more of expenses)	524 (50.2)	422 (55.5)	
Family income (per month) (won), n (%)			
< 3,000,000	680 (65.2)	469 (61.6)	0.22
3,000,000 ≤ ~ < 7,000,000	251 (24.1)	210 (27.6)	
≥ 7,000,000	112 (10.7)	82 (10.8%)	
Expenses for cancer treatment (/year) (won), n (%)			
< 10,000,000	857 (82.2)	592 (77.8)	0.359
≥ 10,000,000	186 (17.8)	19 (22.2)	

Table 2. Information acquisition differences based on CAM usage

	CAM usage		p-value
	Non-user (n = 1041)	User (n = 761)	
Types of experienced CAM, median, (IQR)	0(0-0)	2(1-3)	<0.001
Have you ever heard of CAM?, n (%)			
Yes	408 (39.1)	444 (58.3)	<0.001
No	635 (60.9)	317 (41.7)	
Do you believe CAM's efficacy and safety, n (%)			
No	683 (65.5)	381 (50.1)	<0.001
Yes	360 (34.5)	380 (49.9)	
Sources of information about CAM, n (%)			
lay referrel	480 (46)	423 (55.6)	<0.001
media	493 (47.3)	267 (35.1)	
health care professional	37 (3.5)	61(8.0)	
others	33 (3.2)	10 (1.3)	

Table 4. Multivariable analysis regarding the use of CAM

	B	Exp(B)	95% C.I for EXP(B)		Sig.	
			Lower	Upper		
Private insurance	0.616	1.851	1.311	2.614	<0.001	
Covering medical expenses with private insurance	-0.332	0.718	0.527	0.977	0.035	
Do you believe CAM's efficacy and safety, n (%)	0.417	1.517	1.213	1.898	<0.001	
Sources of information about CAM, n (%)						
No information obtained	Ref.					
Family, friends, and acquaintances	0.796	2.217	0.916	5.364	0.077	
Media	0.128	1.136	0.463	2.787	0.781	
Ole media	0.631	1.879	Yes	7.582	0.375	
Portal news	-0.270	0.763	0.282	2.066	0.595	
SNS	2.056	7.813	1.167	52.311	0.034	
Internet community	0.310	1.363	0.477	3.892	0.563	
Patient advocacy groups	0.847	2.333	0.758	7.183	0.140	
Medical personnel	0.911	2.486	0.917	6.735	0.073	
Pharmacist	1.869	6.484	0.417	100.888	0.182	
Knowledge of CAM	0.826	2.284	1.586	3.287	<0.001	
Have an interest about CAM	0.813	2.254	1.767	2.875	<0.001	
Discussion with the physician about CAM	0.714	2.042	1.557	2.679	<0.001	
Heard about CAM	0.399	1.491	1.177	1.889	0.001	
Internet health seeking behaviors	0.018	1.018	1.006	1.031	0.004	
Diagnosis	Ref.					
Others	0.255	1.291	0.824	2.020	0.265	
Gastrointestinal cancer	0.608	1.837	1.093	3.089	0.022	
Breast cancer	-0.061	0.941	0.573	1.545	0.809	
Lung cancer	0.293	1.341	0.810	2.220	0.254	
Hepatobiliary and pancreas cancer	0.749	2.115	1.174	3.809	0.013	
Head and neck cancer	-0.023	0.978	0.538	1.776	0.941	
Lymphoma & hematologic malignancies	0.217	1.243	0.701	2.202	0.457	
Genitourinary cancer	0.676	1.966	1.418	2.724	<0.001	
Had a discussion about CAM (physician response)	Yes	0.676	1.966	1.418	2.724	<0.001

Table 4. Multivariable analysis regarding the discussion of CAM with a physician

	B	Exp(B)	95% C.I for EXP(B)		Sig.
			Lower	Upper	
Heard about CAM					
No	ref.				
Yes	0.278	1.320	1.027	1.697	0.030
Sources of information about CAM					
others	ref.				
lay referral	1.241	3.457	0.917	13.039	0.067
media	0.803	2.231	0.588	8.472	0.238
health care professional	1.671	5.319	1.305	21.676	0.020
Have an interest about CAM					
No	ref.				
Yes	0.567	1.762	1.362	2.280	0.000
Heard about anti-helminthics					
No	ref.				
Yes	0.502	1.652	1.271	2.148	0.000
Diagnosis					
Others	ref.				
Gastrointestinal cancer	0.864	2.373	1.309	4.303	0.004
Breast cancer	0.624	1.866	0.992	3.509	0.053
Lung cancer	1.217	3.375	1.814	6.279	0.000
Hepatobiliary and pancreas cancer	1.115	3.049	1.605	5.793	0.001
Head and neck cancer	0.716	2.047	0.942	4.450	0.071
Lymphoma & hematologic malignancies	1.317	3.734	1.821	7.656	0.000
Genitourinary cancer	1.289	3.628	1.786	7.369	0.000
Insurance					
Medicare	ref.				
Medicaid	0.501	1.650	0.938	2.901	0.082
Awareness of CAM use*					
No	ref.				
Yes	0.815	2.260	1.616	3.161	0.000
Discussion about CAM use*					
No	ref.				
Yes	1.783	5.948	4.330	8.170	0.000

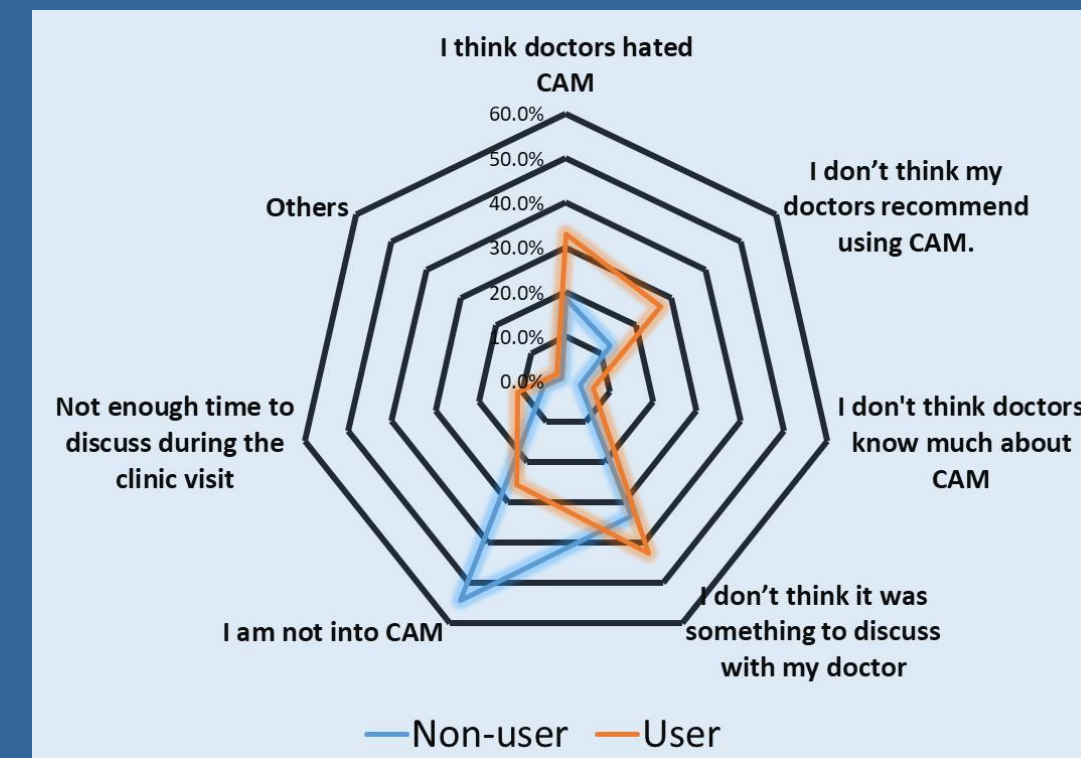


Figure 1. Reason for not consulting about CAM with physician between user & non-user (p<0.001)

Biologically based therapies are the most common CAM in the patient population (55%). Regarding the belief in CAM, patients and their family members are dependent on each other (p=0.129 by McNemar test). 58% of CAM users reported discussing with their physician regarding CAM efficacy, side effects, drug interactions, and usage. The most common reason for not consulting a physician was their negative attitude toward CAM use.

CONCLUSIONS

A positive perception and interest in using CAM were strong predictors of CAM use among cancer patients. The expected physician's negative attitude toward using CAM was the main barrier in the discussion of CAM among patients. It is important to provide patients with accurate and relevant information about CAM.

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Disclosure

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