Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 4, 1265-1275
2025
Publisher: Learning Gate
DOI: 10.55214/25768484.v9i4.6231

Sources of information about complementary and alternative medicine commonly used by oncology patients and healthcare professionals

Racz Aleksandar[1,2,3*], Vasiljev Vanja[2], Rukavina Tomislav[2], Hošnjak Ana Marija[1], Armano Ljerka[4]
[1]University of Applied Health Sciences, Zagreb, Croatia; Croatia; aracz@zvu.hr (R.A.)
[2]Faculty of Medicine University of Rijeka, Croatia.
[3]Faculty of Health Studies, University of Rijeka, Rijeka.
[4]UHC Sisters of Mercy, Zagreb, Croatia.

Abstract: Complementary and Alternative Medicine (CAM) is increasingly utilized in oncology care; however, significant disparities exist regarding the trusted sources of CAM information among oncology patients and healthcare professionals. This study aimed to systematically evaluate these information sources, their credibility, and their influence on medical decision-making. A cross-sectional study was conducted at the Sisters of Mercy University Hospital Center in Zagreb from November 2022 to May 2023. The sample consisted of 832 respondents, comprising 411 oncology patients and 421 healthcare professionals, including 100 physicians, 321 nurses, and technicians. Data were collected using a survey questionnaire based on modified CHBQ and IMAQ instruments. Descriptive and inferential statistical methods were applied, including one-way analysis of variance (ANOVA) and Tukey's test to identify differences among groups. The most common sources of CAM information for patients were family and friends (82.6%), while healthcare professionals were more inclined to use the internet and media (61.4%). Statistically significant differences in attitudes were identified between patients and healthcare professionals regarding their information sources ($p < 0.05$). These findings underscore a pressing need for standardized, evidence-based complementary and alternative medicine (CAM) education that is tailored to both patients and healthcare providers. Addressing these disparities through targeted educational interventions could enhance informed decision-making, reduce misinformation, and optimize the delivery of integrative oncology care. Future research should focus on developing verified CAM information frameworks to ensure a more consistent and scientifically grounded approach in oncology settings.

Keywords: *Complementary and alternative medicine, Healthcare professionals, Oncology patients, Sources of information.*

1. Introduction

In the past, the patient was entirely dependent on the doctor and his knowledge, which strengthened mutual trust and reinforced the doctor's position of authority. With the development of the Internet, the concept of an active and educated patient is becoming increasingly prevalent, providing individuals with easier access to medical information Bundorf, et al. [1] not only regarding methods based on "evidence-based medicine." Complementary and alternative medicine (CAM) is experiencing a significant increase in popularity among patients seeking new and alternative approaches to managing their health conditions [2-4]. In the era of information technology, the Internet has become the primary source of health information for many people worldwide. As more patients use online sources to research health conditions, therapies, and alternative treatment methods, the importance of reliable and accurate information has never been greater. Namely, as the availability of information increases, so does the risk of misinformation and unverified data, which can negatively affect health decisions and

History: Received: 7 February 2025; Revised: 28 March 2025; Accepted: 31 March 2025; Published: 14 April 2025
* Correspondence: aracz@zvu.hr

outcomes [5]. Independent research on medical topics on the Internet can lead patients to perceive their doctor as a service provider, causing them to form preconceived conclusions about the necessary treatments [6]. The concept of the patient as an active participant in treatment is gaining increasing attention, but despite the availability of information, medicine requires specific and expert knowledge. Patients come with so-called lay knowledge, which can be helpful if properly directed, but the problem arises when information is confused with knowledge. Gaventa and Cornwall [7] explore the impact of informed patients, who are more likely to question medical decisions, seek confirmation of their assumptions, and reject recommended treatments [8]. Physicians, therefore, face the challenge of accommodating patients who perceive their online research as equivalent to medical knowledge, which can undermine collaboration and lead to non-compliance with professional guidelines.

Assorted studies have confirmed the questionable reliability of health information on the Internet [9-12]. Nevertheless, despite this, an increasing number of people are relying on digital sources for medical advice and information. According to a study by the Pew Research Center [13] and Pew Research Center [14] between 80% and 85% of adult Internet users in the United States search for health topics online, while in Europe, this percentage varies by region, ranging from 25% to 60%. A similar trend is confirmed by a study conducted by the European Commission [15] on a sample of 26,000 respondents across 28 EU countries, which shows that 59% of participants have searched for health information online in the past year, while 10% do so at least once a week. Research indicates that 85% of oncology patients in the Netherlands utilize the Internet to access health information [16]. In contrast, a study in Germany found an increase in Internet use among breast cancer patients, rising from 36% in 2012 to 62.5% in 2020 [17]. To ensure the reliability of health data on the Internet, the Health on the Net (HON) organization, a non-governmental and non-profit entity based in Geneva, was founded in 1995. HON has developed a set of standards, known as the HON Code of Conduct, that Internet sources must meet to be considered reliable and trustworthy. The code does not guarantee the absolute veracity of all information on a particular site, but its observance helps to identify credible medical information and reduce the spread of misinformation.

2. Materials and Methods

2.1. Sample of Participants

The cross-sectional study was conducted from November 2022 to May 2023 at the Sestre Milosrdnice Clinical Hospital in Zagreb, Croatia. The study was conducted on a proportionally stratified, random sample. The respondents were divided into two strata: stratum 1, consisting of oncology patients with a diagnosed disease that is classified as an oncological disease according to international disease classifications, regardless of the stage of disease development, and stratum 2, consisting of respondents who are healthcare workers in the oncology sector, divided into two substrata (substratum 2.1 physicians and substratum 2.2 nurses). The study included healthcare workers who work directly in the oncology sector, which includes doctors and nurses working in oncology departments, as well as those healthcare workers who are indirectly related to healthcare and team care of oncology patients, which includes doctors and nurses working in hematology, surgery, gynecology and otolaryngology, and within the Clinical Hospital Center where the study was conducted. The research included a total of 832 respondents, comprising 411 oncology patients and 421 healthcare professionals, including 100 doctors and 321 nurses.

In the total sample, by gender, there were 29.4% males and 70.6% females. In the oncology patient group, there were 42.6% male and 57.4% female, while healthcare workers were divided into doctors (32% male, 68% female) and nurses/technicians (11.8% male, 88.2% female). In terms of age structure, the most considerable number of respondents was in the 51–60-year age group (25.2%) and the 41–50-year age group (24.8%), while those older than 60 years comprised 22.8% of the sample. Among oncology patients, 44.3% were older than 60 years, whereas healthcare workers were in the 31–50 age group. The marital status of the respondents shows that 70.3% were married or in a partner relationship, while 29.7% were single, including those who were divorced or widowed. A higher

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 4: 1265-1275, 2025
DOI: 10.55214/25768484.v9i4.6231

proportion of respondents who were married was recorded among oncology patients (73.2%) and physicians (72%), while among nurses, this percentage was slightly lower (66%). In terms of educational structure, the majority of respondents (40.6%) had completed secondary education, while 58.3% held higher education (VŠS or VSS). All physicians had higher education, while among nurses, 73.2% had higher education or higher education. Regarding their place of residence, 72.1% of respondents lived in urban areas, while 27.9% were from rural areas. All physicians lived in the city, while approximately two-thirds of the nurses and oncology patients were from urban areas. The religious structure revealed that 78.1% of oncology patients, 84% of physicians, and 85% of nurses identified themselves as believers, while agnostics and atheists comprised a smaller percentage of respondents. Analyzing income, most doctors (97%) had incomes above €1,000, while nurses most often had incomes around €1,000 (63.9%), and oncology patients had incomes below €1,000 (50.4%). In terms of length of service, the most considerable number of health workers had 16–25 years of experience (27%), while 8.5% had worked for more than 35 years. Among doctors, the most significant number of respondents were in the 5–25 years of service group, while among nurses, the majority had extensive experience. Finally, 30.7% of health workers worked directly in oncology, while 69.3% were indirectly involved in the care of patients with oncology. Among doctors, 56% worked in oncology departments, while among nurses, this percentage was 22.9%.

2.2. Method of Conducting Research

Ethical approval was obtained, and informed consent was obtained from each respondent before conducting the research.

This research was approved by the Ethics Committee of the Sestre Milosrdnice Clinical Hospital (Class: 003-06/21-02/001, Reg. No.: 251-29-11/1-2l-01-9) and was conducted by all relevant guidelines that ensure proper conduct of the research and protection of participants while respecting the principles of good clinical practice. During the research, compliance with the key ethical and bioethical principles of autonomy, justice, beneficence and non-maleficence was ensured by the Nuremberg Code, the Declaration of Helsinki (latest revision), the Health Care Act of the Republic of Croatia (Official Gazette 158/08, 71/10, 139/10, 22/11, 84/11, 12/12, 35/12, 70/12, 82/13, 100/18, 125/19, 147/20, 119/22, 156/22 and 33/23) and the Patients' Rights Act of the Republic of Croatia (Official Gazette 169/04, 37/08). It was conducted in accordance with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals about the processing of personal data. And the free flow of such data, as per the GDPR.

When conducting research in the first stratum, the Face-to-face survey method was employed, with the principal researcher (stratum 1) and trained interviewers (stratum 2) conducting the survey. The Face-to-face method is a survey conducted in personal contact with the respondent, where the interviewer reads the questions to the respondent, who is in front of them, and carefully records their answers. This allows the interviewer to have better control over the survey process, as they can pay attention and record the non-verbal reactions of the respondent or other relevant information that they might not have noticed otherwise.

The distribution of questionnaires to healthcare workers, doctors, and nurses was done personally in unmarked envelopes, and a third party collected them.

The researchers are aware of the potential error resulting from the different methods used to collect responses. However, a preliminary pilot study showed that most oncology patients were unable to independently complete the questionnaires in their entirety (of which only a tiny part was processed for this scientific paper), partly due to poor health, partly due to a lack of understanding of the method of completing the questionnaire and/or a lack of understanding of the questions themselves related to CAM methods and techniques. The pilot phase of the study also served to train and triage the researchers, ensuring that the main study included those who were trained to conduct the research without any verbal or nonverbal influence on the responses expressed by the respondents.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 4: 1265-1275, 2025
DOI: 10.55214/25768484.v9i4.6231

2.3. Measuring Instrument

For this research, two questionnaires were used: one for health workers and the other for oncology patients, created with minor modifications of the previously used CAM Health Belief model. Questionnaire (CHBQ) (Lee & Boker, 2004) and Integrative Medicine Attitude Questionnaire (IMAQ) Schneider, et al. [18] questionnaire.

2.4. Data Processing Methods

The research results were organized according to the established research objectives and presented in a textual format and tables, providing insight into the attitudes, preferences, and behavioral patterns of respondents about KAM.

Inferential statistical methods were employed in the statistical analysis to examine data on attitudes and beliefs regarding complementary and alternative medicine. As part of the descriptive analysis, the data were presented in tabular form, including absolute frequencies, percentages, and measures of central tendency (arithmetic mean, standard deviation, minimum, and maximum value). One-way analysis of variance (ANOVA) was used to compare mean values between three or more groups when the data distribution was normal. For more precise analyses, a post hoc test was performed after the ANOVA test—a Tukey test —which identified specific differences between groups.

3. Results

Analysis of the results identifies the most common sources of information about KAM among patients and healthcare professionals, highlighting differences between these groups. The results are shown in Tables 1, 2, 3.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 4: 1265-1275, 2025
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Table 1.
Level of acceptance of claims about sources of information about KAM.

Statement	Degree of agreement on a Likert scale of 1 – 5	Strata					
		Patients		Healthcare workers		Total	
		N	%	N	%	N	%
Healthcare workers outside the hospital	I completely disagree	113	27.6%	95	22.5%	208	25.0%
	I mostly disagree	118	28.8%	73	17.3%	191	23.0%
	Neither agrees nor disagree	92	22.4%	154	36.5%	246	29.6%
	I mostly agree	66	16.1%	65	15.4%	131	15.7%
	I completely agree	21	5.1%	35	8.3%	56	6.7%
	Total	410	100.0%	422	100.0%	832	100.0%
Healthcare workers at the hospital	I completely disagree	138	33.7%	137	32.5%	275	33.1%
	I mostly disagree	168	41.0%	111	26.3%	279	33.5%
	Neither agrees nor disagree	75	18.3%	126	29.9%	201	24.2%
	I mostly agree	25	6.1%	34	8.1%	59	7.1%
	I completely agree	4	1.0%	14	3.3%	18	2.2%
	Total	410	100.0%	422	100.0%	832	100.0%
A friend or family member	I completely disagree	9	2.2%	27	6.4%	36	4.3%
	I mostly disagree	15	3.7%	29	6.9%	44	5.3%
	Neither agrees nor disagree	24	5.9%	78	18.5%	102	12.3%
	I mostly agree	182	44.4%	151	35.8%	333	40.0%
	I completely agree	180	43.9%	137	32.5%	317	38.1%
	Total	410	100.0%	422	100.0%	832	100.0%
Other patients	I completely disagree	16	3.9%	43	10.2%	59	7.1%
	I mostly disagree	28	6.8%	31	7.3%	59	7.1%
	Neither agrees nor disagree	64	15.6%	120	28.4%	184	22.1%
	I mostly agree	187	45.6%	121	28.7%	308	37.0%
	I completely agree	115	28.0%	107	25.4%	222	26.7%
	Total	410	100.0%	422	100.0%	832	100.0%
Various associations (self-help groups)	I completely disagree	40	9.8%	67	15.9%	107	12.9%
	I mostly disagree	78	19.0%	46	10.9%	124	14.9%
	Neither agrees nor disagree	150	36.6%	130	30.8%	280	33.7%
	I mostly agree	109	26.6%	108	25.6%	217	26.1%
	I completely agree	33	8.0%	71	16.8%	104	12.5%
	Total	410	100.0%	422	100.0%	832	100.0%
Internet, TV…	I completely disagree	39	9.5%	43	10.2%	82	9.9%
	I mostly disagree	49	12.0%	25	5.9%	74	8.9%
	Neither agrees nor disagree	66	16.1%	95	22.5%	161	19.4%
	I mostly agree	152	37.1%	141	33.4%	293	35.2%
	I completely agree	104	25.4%	118	28.0%	222	26.7%
	Total	410	100.0%	422	100.0%	832	100.0%
Church	I completely disagree	176	42.9%	141	33.4%	317	38.1%
	I mostly disagree	126	30.7%	86	20.4%	212	25.5%
	Neither agrees nor disagree	86	21.0%	141	33.4%	227	27.3%
	I mostly agree	16	3.9%	29	6.9%	45	5.4%
	I completely agree	6	1.5%	25	5.9%	31	3.7%
	Total	410	100.0%	422	100.0%	832	100.0%

Table 1 presents the level of acceptance of claims about sources of information on complementary and alternative medicine (CAM) among patients and healthcare professionals, rated on a 5-point Likert scale. Most respondents trust information received from healthcare professionals, whether inside or outside hospitals, with disagreement prevailing. On the other hand, participants trust information from friends and family members the most, with a high level of agreement among most respondents. Also, a considerable number of respondents accept information from other patients and through media such as the Internet and television. Self-help groups and associations have mixed results, while trust in church-based sources of information is the lowest, with a strong disagreement among most respondents. The

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 4: 1265-1275, 2025
DOI: 10.55214/25768484.v9i4.6231

results indicate that patients tend to trust informal sources of information more, such as family, friends, and the Internet. At the same time, healthcare professionals tend to prefer more formal sources but with a general skepticism towards most of the available options.

Table 2.
Average values and standard deviation of respondents' beliefs and attitudes about sources of information about KAM.

Sources of information about KAM	Physicians		Nurses		Patients	
	M	SD	M	SD	M	SD
Healthcare workers outside the hospital	2.70	0.969	2.69	1.282	2.43	1.194
Healthcare workers at the hospital	2.23	1.062	2.23	1.103	2.00	0.924
A friend or family member	4.17	0.933	3.70	1.193	4.24	0.887
Other patients	3.54	0.999	3.51	1.299	3.87	1.023
Levels of association (self-help groups)	3.35	0.925	3.11	1.375	3.04	1.080
Internet. TV…	4.34	0.781	3.41	1.269	3.57	1.250
Church	2.50	0.882	2.26	1.249	1.91	0.959

Table 2 presents the mean values (M) and standard deviations (SD) of the beliefs and attitudes of respondents (physicians, nurses, and patients) regarding various sources of information about CAM. The highest level of trust in information is expressed by patients and physicians towards friends and family members, while healthcare professionals tend to be more reserved. The Internet and TV are highly rated among physicians, while the ratings are more moderate among nurses and patients. Information from other patients receives high average ratings across all groups. On the other hand, the lowest values are assigned to the church and healthcare professionals within hospitals, with patients expressing the least trust towards these sources. Self-help groups are rated with mean values across all groups. Healthcare professionals outside hospitals are rated slightly better than those in hospitals but still with lower average values.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 4: 1265-1275, 2025
DOI: 10.55214/25768484.v9i4.6231

Table 3.
Statistical significance of differences in beliefs and attitudes between respondents about sources of information about KAM: results of the Tukey test

Source of information about KAM	(i) By profession / status	(j) By profession / status	Mean value	Standard error	P*	95% confidence interval	
						Lower bound	Lower bound
Healthcare workers outside the hospital	Physician	Nurse	0.005	0.138	0.999	-0.32	0.33
		Patient	0.274	0.134	0.103	-.04	0.59
	Nurse	Physician	-0.005	0.138	0.999	-0.33	0.32
		Patient	0.269 *	0.090	0.008	0.06	0.48
	Patient	Physician	-0.274	0.134	0.103	-0.59	0.04
		Nurse	-0.269 *	0.090	0.008	-0.48	-.06
Healthcare workers at the hospital	Physician	Nurse	-0.004	0.116	0.999	-0.28	0.27
		Patient	0.230	0.113	0.104	-.04	0.50
	Nurse	Physician	0.004	0.116	0.999	-0.27	0.28
		Patient	0.234 *	0.075	0.006	0.06	0.41
	Patient	Physician	-0.230	0.113	0.104	-0.50	0.04
		Nurse	-0.234 *	0.075	0.006	-0.41	-.06
A friend or family member	Physician	Nurse	0.469 *	0.117	0.000	0.19	0.74
		Patient	-0.068	0.114	0.819	-0.34	0.20
	Nurse	Physician	-0.469 *	0.117	0.000	-.74	-0.19
		Patient	-0.538 *	0.076	0.000	-0.72	-0.36
	Patient	Physician	0.068	0.114	0.819	-0.20	0.34
		Nurse	0.538 *	0.076	0.000	0.36	0.72
Internet0. TV…	Physician	Nurse	0.929 *	0.139	0.000	0.60	1.25
		Patient	0.773 *	0.135	0.000	0.46	1.09
	Nurse	Physician	-0.929 *	0.139	0.000	-1.25	-0.60
		Patient	-0.156	0.090	0.196	-0.37	0.06
	Patient	Physician	-0.773 *	0.135	0.000	-1.09	-0.46
		Nurse	0.156	0.090	0.196	-.06	0.37
Other patients	Physician	Nurse	0.029	0.130	0.973	-0.28	0.33
		Patient	-0.329 *	0.127	0.026	-0.63	-.03
	Nurse	Physician	-0.029	0.130	0.973	-0.33	0.28
		Patient	-0.358 *	0.085	0.000	-0.56	-0.16
	Patient	Physician	0.329 *	0.127	0.026	0.03	0.63
		Nurse	0.358 *	0.085	0.000	0.16	0.56
Various associations (self-help groups)	Physician	Nurse	0.241	0.136	0.180	-0.08	0.56
		Patient	0.309	0.132	0.052	0.00	0.62
	Nurse	Physician	-0.241	0.136	0.180	-0.56	0.08
		Patient	0.068	0.088	0.724	-0.14	0.28
	Patient	Physician	-0.309	0.132	0.052	-0.62	0.00
		Nurse	-0.068	0.088	0.724	-0.28	0.14
Church	Physician	Nurse	0.245	0.123	0.115	-.04	0.53
		Patient	0.595 *	0.120	0.000	0.31	0.88
	Nurse	Physician	-0.245	0.123	0.115	-0.53	0.04
		Patient	0.350 *	0.080	0.000	0.16	0.54
	Patient	Physician	-0.595 *	0.120	0.000	-0.88	-0.31
		Nurse	-0.350 *	0.080	0.000	-0.54	-0.16

Note: P* - The significance level value, $p < 0.05$, indicates a statistically significant difference between the compared groups.

Table 3 presents the results of the Tukey test, which examines statistically significant differences in attitudes among doctors, nurses, and patients regarding various sources of information about CAM. Statistically significant differences ($p < 0.05$) are marked with an asterisk (*).

Significant differences exist in perceptions regarding several sources of information. Patients are more likely than nurses to accept information from healthcare professionals outside and within the hospital. Similarly, patients tend to place greater trust in information from other patients than in

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 4: 1265-1275, 2025
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information from healthcare professionals, such as nurses and doctors. For sources such as friends and family, doctors show higher levels of agreement than nurses, while patients are statistically significantly more likely to rely on this source than nurses. The Internet and TV are significantly more important sources of information for doctors than for nurses and patients.

The church is the source with significant differences across groups – patients show the least trust, while nurses are slightly more likely to trust this source compared to patients but less so than doctors. For self-help groups, no significant differences were found between groups. These results suggest that there are differences in perceptions of complementary and alternative medicine (CAM) information sources among health professionals and patients, with patients showing greater trust in informal sources compared to health professionals.

4. Discussion

Sources of information about complementary and alternative medicine (CAM) are crucial for understanding how patients and healthcare professionals acquire knowledge about these methods and how this information affects their perceptions and use of CAM. The results of this study reveal a diverse range of information sources, including healthcare professionals, friends and family, fellow patients, the media, and religious institutions.

According to research by Evans and colleagues, the most common sources of information about CAM include friends, relatives, and support and self-help groups [19]. These sources are often instrumental in shaping patients' attitudes toward complementary and alternative medicine (CAM) and their decisions to incorporate such therapies into their healthcare practices. First-hand experiences and recommendations from these informal sources are often perceived as authentic and credible, further encouraging their use among patients.

Roy, et al. [20] in their study with a sample of 200 physicians and 403 patients, found that the most common sources of information about complementary and alternative medicine (CAM) for patients were family members (43%) and friends (27%), while only 13% of the information came from physicians. Furlow, et al. [21] found that family and friends were the most common sources of information about complementary and alternative therapies (36.2%), while other sources, such as the Internet (16.7%), health professionals (15.7%), and books (15.7%), were cited less frequently. These results highlight the dominant role of informal networks in disseminating information about CAM, while the low share of physicians providing information points to the need for better integration of these practices into formal medical communications. Furthermore, research from other countries consistently shows that family and friends are the primary and most important sources of information about CAM [22-25].

In the Ku and Koo [24] which was conducted in 2014 and 2015 at the Sestre milosrdnice Clinical Hospital, the most considerable number of participants learned about CAM methods from friends and family members (41%), while a considerable proportion of respondents received information from other patients (20.5%). The Internet is the third most common source (15.5%), followed by general practitioners (7.5%) and pharmacists (6.8%). Other sources, such as books and newspapers (4.3%), television (1.2%), and alternative therapists (1.2%), have a significantly smaller impact. The research suggests a marginal role for formal healthcare professionals and CAM therapists in informing oncology patients about complementary and alternative medicine (CAM). Family medicine physicians, although more represented than other formal sources within the health system, are cited as a source of information by only 7.5% of patients. At the same time, CAM therapists have a negligible role, accounting for only 1.2%. These data reflect the pattern observed in our study, where health professionals outside the hospital were among the least represented sources of information about CAM (6.7%). In both cases, the key sources remain informal channels, such as family, friends, and other patients. The similarity between the results of these studies suggests a continuing trend in which patients increasingly rely on informal networks and self-research. At the same time, formal health professionals and CAM practitioners fail to take a more significant role in informing patients about CAM methods.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 4: 1265-1275, 2025
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A study conducted by Armano, et al. [26] involving oncology patients at the Sestre milosrdnice Hospital found that family and friends (36.6%), other patients (31.7%), and the media (28.0%) were the most common sources of information about complementary and alternative medicine (CAM). This study also indicated that healthcare professionals in the hospital played a negligible role (2.4%) as a source of information. In comparison to our study, a similarity is evident in that our results also indicate that informal sources, such as friends, family, and other patients, are the most dominant. For example, according to our data, friends and family members are the most significant source of information (40.0%), while other patients also constitute an important segment (37.0%). On the other hand, healthcare professionals also play a minor role in our study, which indicates a broader trend of lack of information about CAM within formal healthcare structures.

A survey conducted among students at a secondary medical school in Zagreb found that students most often learned about CAM methods from patients during clinical practice (78.6%) [27]. This data is concerning because it indicates that future healthcare professionals acquire information about CAM primarily through informal and unverified channels. This can be linked to our research, where healthcare professionals also do not play a key role in providing information, potentially reflecting a broader problem of lack of education about CAM in formal medical education programs.

In the absence of a large number of formal studies on KAM in Croatia, this discussion also used data obtained from final and/or diploma theses, which, despite limitations, such as a smaller sample or the specificity of the sample, can serve as a valuable contribution to the discussion, especially in an area where literature is scarce. One such study, conducted among oncology patients from October 2022 to May 2023, included 410 respondents, primarily from the northern parts of Croatia. The results show that most participants learn about KAM methods primarily from other patients (61.2%) and through websites (55.9%). Support groups for oncology patients also constitute a significant source of information (26.6%), while healthcare professionals, unfortunately, have minimal influence since less than 20% of respondents cite them as a source [28].

The results of the studies confirm our findings, which indicate that friends, family, and other patients are the primary sources of information about CAM. The formal health system, including doctors and other health professionals, has a marginal role in providing this information. These results highlight the need for greater involvement of the formal health system in educating patients and health professionals about CAM methods in order to ensure better quality, more informed, and, above all, safer healthcare.

Given the identified barriers and differences in perceptions of CAM among patients and healthcare professionals, future research should focus on investigating the impact of education and public campaigns about CAM on the critical selection of sources of information about treatment methods and attitudes about CAM, with longitudinal research being conducted to determine whether healthcare professionals' perceptions change after specialized educational programs on CAM.

4.1. Research Limitations

The study has several limitations. First, the sample was collected within a single hospital setting, which may limit the generalizability of the results to the broader population of oncology patients and healthcare professionals in Croatia. Furthermore, there is a possibility of socially desirable responses, especially given the sensitivity of the topic of complementary and alternative medicine (CAM), which may influence the expression of actual attitudes and practices. Additionally, the lack of updated epidemiological data and the impact of the COVID-19 pandemic may have influenced respondents' perceptions and responses. In contrast, some respondents may have been insufficiently informed about CAM, which could have affected the accuracy of their responses. Methodological limitations include selection bias and the potential for recall error. Bias), especially among oncology patients and healthcare professionals, who may have selectively interpreted their experiences. Finally, the complexity of the questionnaire may have made participation difficult for older respondents and those with lower levels of

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 4: 1265-1275, 2025
DOI: 10.55214/25768484.v9i4.6231

education. At the same time, professional norms and institutional expectations may have influenced some responses.

5. Conclusion

This study provided detailed insight into the sources of information about complementary and alternative medicine (CAM). One of the key findings of the study is that patients obtain information about CAM from close acquaintances – family and friends (82.6%). In comparison, healthcare professionals prefer to obtain information from online sources and the media (61.4%). At the same time, healthcare professionals showed some skepticism towards formal healthcare sources that address CAM, which indicates a lack of institutional support and guidelines for CAM education.

The results showed significant differences between healthcare professionals and oncology patients in their use of information sources regarding complementary and alternative medicine (CAM). Thus, the null hypothesis that "there are no statistically significant differences between healthcare professionals and oncology patients in the use of different sources of information about CAM methods and techniques" was rejected because the results showed that patients primarily use informal sources of information, such as family and friends. In contrast, healthcare professionals use the Internet and media more frequently, resulting in a statistically significant difference between the groups.

In conclusion, the results of this study raise the question of the need for systematic changes in the approach to KAM within health care. The education of healthcare professionals, the development of clinical practice guidelines, and the formal integration of KAM into medical education can significantly improve the quality of information and communication between patients and healthcare professionals. Only through open dialogue and the provision of reliable information sources can it be ensured that the safe and informed use of KAM is possible in oncology care.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 4: 1265-1275, 2025
DOI: 10.55214/25768484.v9i4.6231