Original Article

Complementary And Alternative Medicine: Use, Knowledge, Beliefs And Attitude Of Patients With Cancer

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Abstract

A growing number of people, particularly those with cancer, are turning to complementary and alternative medicine (CAM) for help. There are significant risks to the patient's safety when alternative treatments are consumed or used with conventional cancer therapy. Medical professionals treating cancer patients are expected to be aware of these dangers. While several studies have evaluated medical professionals' understanding of CAM, much less have explored cancer patients' perspectives on the topic. This study aimed to investigate complementary and alternative medicine use, knowledge, beliefs, and attitude among patients with cancer .Cross sectional design was utilized. This study was conducted at King Abdullah Medical City-affiliated Makah Oncology Center's inpatient and outpatient departments and clinics, Saudi Arabia. Convenience samples of 268 adult male and female cancer patients were selected. Tools included a structured interviewing questionnaire. Results revealed that, the most common forms of complementary and alternative medicine were religious in origin; Quran-read water (86.7%), Zamzam water (82.5%), and reciting the Quran (66%). There was also a highly statistically significant relationship between the patients' beliefs and their use of CAM, and a favorable association between their attitudes and their use of CAM. Conclusions: Health care professionals need further training to keep up with the rising tide of complementary and alternative medicine usage among cancer patients.

Keywords: complementary and alternative medicine use, Cancer patient's beliefs, knowledge and attitude

Introduction

Worldwide, cancer is the second biggest cause of death, accounting for more than 9.6 million deaths in around 185 countries. (1). Cancer prevention and early detection measures developed by the World Health Organization (WHO) have been shown to reduce the overall cancer burden and boost survival rates (2018).Of Saudi Arabia's total population of 33,554,333 in 2018, 10,518 people died from cancer and 24,485 were diagnosed with the disease. (2).

Patients with cancer often look for therapies both within and outside of the conventional allopathic paradigm to find the ones that best suit their individual requirements. The majority of CAM practices have their roots in centuries-old practices that have never been backed up by scientific data. However, new research shows that some medicines may effectively address a wide range of toxicities associated with cancer .The term "complementary and alternative medicine" (CAM) is used to describe a wide variety of non-conventional approaches to health care, such as the use of herbal remedies, psychological. (3).

Complementary and alternative medicine (CAM) usage is on the rise worldwide, both generally and in specialized populations such those with cancer. In several published studies had approved that exposures to hazardous drugs can cause both acute and chronic health effects such as skin rashes, adverse reproductive outcomes including spontaneous abortions, infertility, congenital malformations, possibly leukemia and other types of cancers. The health risk depends on how much exposure a mother has to these drugs and how toxic they are. (4).

Utilization of CAM is rather common (33.3% to 93.3%) among Saudi citizens. (5). Supplication, recitation of the Quran, drinking Zamzam water (water from holy Mecca), and drinking water upon which the Quran has been read are the most common forms of complementary and alternative medicine (CAM) practiced in Saudi Arabia. Other forms of CAM, such as cupping/hijama, drinking honey, camel milk, and camel urine, are also widely used. (6). There is a paucity of research on the topic of CAM usage among Saudi patients with cancer; just three studies have investigated CAM use among Saudi cancer patients, and those studies found vastly different outcomes.(7).

Significance of the study

Recently, according to the data base in 2019, around 4,530 adult patients were newly diagnosed with cancer, and 14,409 oncology patients were admitted to the inpatient oncology center at King Abdulla Medical CITY (KAMC) in Makah and were receiving various types of treatment modalities, as documented by the oncology center's statistical & medical records department. Additionally, there will be 78,802 cancer patients visiting the institute's outpatient clinics. (8).

Despite the large number of cancer patients in KMCA, it is unclear how many are using alternative treatments, and the investigator's clinical experience suggests that many oncology patients employ such approaches without first seeing a physician, which might have serious repercussions. In addition, there is a dearth of studies conducted in Saudi Arabia that focus on this topic. The findings of this research should, therefore, add to the existing body of information about complementary therapy's usage, attitude, and belief among cancer patients. The patient's knowledge bases on complementary therapies will be revealed, allowing for an evaluation of their credibility from a medical perspective.

Aim of the study: To investigate complementary and alternative medicine use, knowledge, beliefs, and attitude among patients with cancer in Oncology center at King Abdullah Medical City.

Research questions:

1. Is their statistical relationship between cancer patients' knowledge about CAM and their use?

2. Is their statistical relationship between cancer patients' attitude regards CAM and their use?

3. Is their statistical relationship between cancer patients' beliefs regards CAM and their use?

4. Is their statistical relationship between cancer patients' beliefs regards CAM and Total Knowledge?

5. Is their statistical relationship between cancer patients' beliefs regards CAM and Total attitude?

Research design: Cross-sectional design was utilized in the current study

Setting: The current study was conducted in King Abdullah Medical City-affiliated Makah Oncology Center's inpatient and outpatient departments and clinics, which are among the biggest facilities dedicated to the care of cancer patients in Saudi Arabia. Medical oncology, hematology, radiation oncology, and palliative care are the four core branches of the oncology center. There are 37 inpatient oncology beds, 10 palliative beds, 20 hematology beds, 24 outpatient chemotherapy beds, and 62 weekly specialist clinics; the radiation oncology department is housed at the cancer center.

Sample: a convenience sample 268 adult male and female patients who were all diagnosed with cancer. Patients had to be between 20 and 60 years old, have a proven cancer diagnosis (both solid tumors and hematological malignancies), be receiving cancer-specific therapy, and be able to speak in order to participate.

Tools for data collection: Assessment of Use, Knowledge, Beliefs, and Attitudes toward Complementary Therapy questionnaire that included; the first part is a health history and personal information. The Second part, CAM is discussed: Zamza m water, Quran-read water, garlic, olive oil, multivitamins, black seeds, camel milk, camel urine, an unknown herbal concoction, and other CAM therapies were listed here. The third part included 15 multiple-choice questions to assess Patients' knowledge toward Complementary Therapy like the following: what CAM is what kinds of CAM boost the immune system and etc… (9).

Scoring system: If an answer was correct, it received a full point, whereas an incorrect response received no credit. The patient's overall score on the knowledge assessment regarding complementary treatment was converted into two groups as follows: if the patient scored below 9 (about 60%), they were classified as having an inadequate understanding of complementary therapy. In contrast, if the patient's combined score was 9 or above, they were deemed to have an adequate understanding of alternative medicine. According to a number of studies, 60% is the minimum amount of understanding cancer patients need to be safe and avoid the hazards associated with using complementary therapies. (10).

The fourth part to assess patients' Attitudes toward Complementary Therapy that included six items to which respondents may provide one of three possible replies (disagree with one point, remain neutral with two points, or agree with three points).

Scoring system: You might either disapprove of a statement by giving it a score of -1, be impartial by giving it a score of 2, or express full agreement by giving it a score of 3. Total scores on the attitude scale were transformed into three intervals based on literature review and statistical calculations as follows: if the oncology patient scored between 0 and 6 (approximately 30% - 55%), they were classified as having negative attitudes towards the complementary therapy; if the oncology patient scored between 6 and 12 (more than 55% to less than 80%), they were classified as having a neutral attitude (neither positive nor negative).

The fifth part to assess patients' Beliefs toward Complementary Therapy that included six assertions to which respondents may assign a score of 1, 2, or 3 based on how strongly they disagree, remain neutral, or agree with each statement.

Scoring system: You might either disapprove of a statement by giving it a score of 1, be impartial by giving it a score of 2, or express full agreement by giving it a score of 3. Oncology patients were classified as having negative beliefs about the complementary therapy if their scale of belief total scores fell between 0 and 6 (roughly 30% to 55%), and as having neutral beliefs about the complementary therapy if their scale of belief total scores fell between 6 and 12 (more than 55% to less than 80%). (11).

Content validity and reliability: The content validity of the developed tools was assessed by a panel of three oncology experts (a consultant in hematology from KAMC and an assistant consultant in hematology and internal medicine from Um Alqura University, an assistant consultant in hematology oncology from KAMC, and a pediatric oncology associate consultant from MCH and a lecturer in pediatric oncology from Zagazig university, Egypt). Experts' opinions on the sentences' clarity, appropriateness, and arrangement informed the revisions that were made. Cronbach's Alpha was used to conduct statistical reliability testing, and the results were rather positive across both portions of each instrument: (0.76, 0.80, 0.72 & 0.89, respectively).

Protection of ethical and human rights: The Research and Ethics Committee gave its stamp of approval (between 15 September and 30 December 2020-IRP October 2022). The researchers also secured an official approval to perform the study from the Center of Oncology's management. A cover letter detailing the study was read to each participant, including the study's goals, methods, and importance. It was also made clear to the participants that their involvement was entirely voluntary and that they might stop at any time without facing any consequences. Further, by encoding the data, patients were given the assurance that their privacy would be protected. Participants were also assured that their information will not be shared with other researchers without their express consent. A permission form was obtained from all willing participants.

Procedure: There were two parts to the study's execution. In the first, preparation phase, the investigator built the data collecting instruments based on a thorough examination of the relevant literature and validated the validity and reliability of those tools. After obtaining formal approval to go on with the study, the researcher followed the steps below to gather the necessary data. The researcher must explain the study's rationale and methodology, and must personally contact each participant in the study. The last step was for them to sign the permission form. Data collection from oncology patients occurred during the second, implementation phase .Over the course of three months, the investigator visited cancer patients in both inpatient and outpatient settings. Each oncology patient was interviewed separately by the investigator, who spent 15–30 minutes (on average, 22 minutes) with them to complete out the instrument and record their replies. There were some really well-informed patients who requested a self-reported version of the quiz. During the time period of data collection, the investigator found a high frequent readmission rate for most patients, with an average of roughly twice monthly for each patient. Patients were only requested to participate once, and subsequent hospitalizations were not included toward the total number of admissions.

Results:

Table1 Frequency distribution of participants according to demographic characteristics & their medical background (n=268)

Variables	Categories	N	%
Gender	**Male**	**111**	**41.4%**
	Female	**157**	**58.6**
Marital Status	**Single**	**73**	**27.2%**
	Married	**147**	**54.9%**
	Divorces	**22**	**8.2%**
	Widow	**26**	**9.7%**
Age	**20: <30 years**	**39**	**14.4%**
	30: <40	**72**	**26.9%**
	40: <50	**72**	**26.9%**
	MoreThan50 years	**85**	**31.7%**
Level of Education	**Un Educated**	**62**	**23.1%**
	Lower Education	**131**	**48.9%**
	Higher Education	**75**	**28.0%**
Smoking	**Smoke**	**45**	**16.8%**
	Never smoke	**150**	**56.0%**
	Stopped	**72**	**26.9%**
Cancer type	**Solid Non metastatic tumor**	**54**	**20.1%**
	Solid metastatic tumor	**121**	**45.1%**
	Hematology Malignancy	**93**	**34.7%**

Variables	Categories	N	%
Stage of cancer	Non metastatic	100	37.3%
	Metastatic	140	52.2%
	Not applicable	28	10.4%
Total		268	100.0%

As regards the characteristics of the participants, this table indicates that more than half 58.6% of cancer patients are female, while 41.4% are male. Regarding marital status: it is found that 27.2%, 54.9%, 8.2% & 9.7% of cancer patients respectively were single, married, divorced and widow. Regarding age; 14.4% of cancer patient in the age group (20 to less than 30 years), 26.9% in the age group (30 to less than 40 yrs) , 26.9% in the age group(40 to less than 50 yrs) , 31.7 % in the age group (more than 50 years). Furthermore, it is found that 23.1%, 48.9% & 28% were uneducated, lower education & Higher education respectively. According to cancer type; 20.1%, 45.1% & 34.7% had solid non-metastatic tumor, solid metastatic tumor and hematology malignancy respectively and Fifty-two point two of cancer patients had metastatic stage of cancer.

Table 2 Frequency of cancer patient regarding to use of different types of complementary and alternative medicine (CAM), (n=268).

Items	Yes		No	
	Number	Percent	Number	percent
Types of CAM	258	96.3%	10	3.7%
Zamzam Water	221	82.5%	47	17.5%
Water read upon Quran	184	68.7%	84	31.3%
Garlic	62	23.1%	206	76.9%
Olive oil	69	25.7%	199	74.3%
Multivitamin	19	7.1%	249	92.9%
Known herbal remedies	38	14.2%	230	85.8%
Quran recitation	177	66.0%	91	34.0%
Black seed	122	45.5%	146	54.5%
Camel milk	72	26.9%	196	73.1%
Camel urine	78	29.1%	220	82.1%
Unknown herbal mixture	16	6.0%	252	94.0%
Honey	78	29.1%	190	70.9%

Table (2) shows that 82.5%, 86.7% and 66% of cancer patient respectively were use CAM as Zamzam water, water read upon Quran, Quran recitation. Also, 23.1%, 25.7%, 7.1%, 14.2%, 45.5%, 17.9%, 6% and 29.1 of cancer patient respectively were use CAM as garlic, olive oil, multivitamin, known herbal remedies, black seed, camel urine, unknown herbal mixture and honey.

Table 3 Frequencies & Total Score for Assessment the participant's level of knowledge about CAM Use), (n=268).

Items		Correct		Incorrect	
		N	%	N	%
	CAM means	81	30.2%	187	69.8%
	CAM can help boost immune system to fight cancer & decrease infection rate	92	34.3%	176	65.7%

	Safe for cancer patients to protect against gastric acidity?	9	3.4%	259	96.6%
	CAM used to reduce the severity & duration of nausea associated with chemotherapy	20	7.5%	248	92.5%
	Foods is rich in iron and vitamins	177	66.0%	91	34.0%
	Safe to be used for patients to decrease pain	74	27.6%	194	72.4%
	Helpful even if used separately for hot flashes	135	50.4%	133	49.6%
	CAM can reduce fatigue	31	11.6%	237	88.4%
	safe in treating constipation	33	12.3%	235	87.7%
	Acupuncture contraindicated for patients	15	5.6%	253	94.4%
	Can increase risk for bleeding	34	12.7%	234	87.3%
	Can reduce the effect of chemotherapy	17	6.3%	251	93.7%
	Cancer patients should decrease their intake o	22	8.2%	246	91.8%
	Chiropractic contraindicated for cancer patients	43	16.0%	225	84.0%
	Massage contraindicated for cancer patients	56	20.9%	212	79.1%

Total Scores of Knowledge about Complementary Therapy Use				
Categories	Satisfactory		Unsatisfactory	
Knowledge about CAM use	N	%	N	%
	9	3.4 %	259	96.6%
	$\bar{X}$ ± SD= 2.43 ±1.218			
Total Patients' Knowledge	**286**		**100%**	

Table (3) shows the correct and incorrect answer of cancer patient related to information about CAM uses as total score less than 60 % as answering nine questions from 15 questions correct means unsatisfactory knowledge. Result shows that the majority of participants answering incorrect related to lack of knowledge about CAM use**.** Finally, result shows that 100 % of patients had an unsatisfactory level of knowledge.

Figure (1) Percentage Distribution regarding Patients' Attitudes toward Complementary Therapy (N= 268).

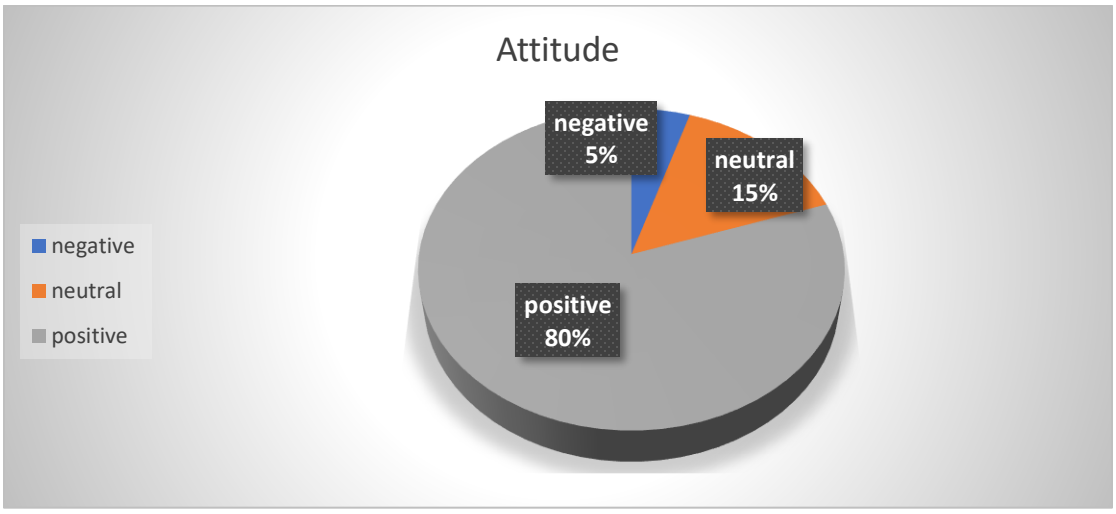

Figure (1) revealed that, the attitudes of oncology patients toward complementary therapy. The figure confirms that the vast majority (80%) of patients had a positive attitude toward complementary therapy, 15% had a neutral (neither positive nor negative attitudes), while only 5 % of patients had a negative attitude toward complementary therapy.

Figure (2): Percentage Distribution regarding Patients' Beliefs toward Complementary Therapy (N= 268).

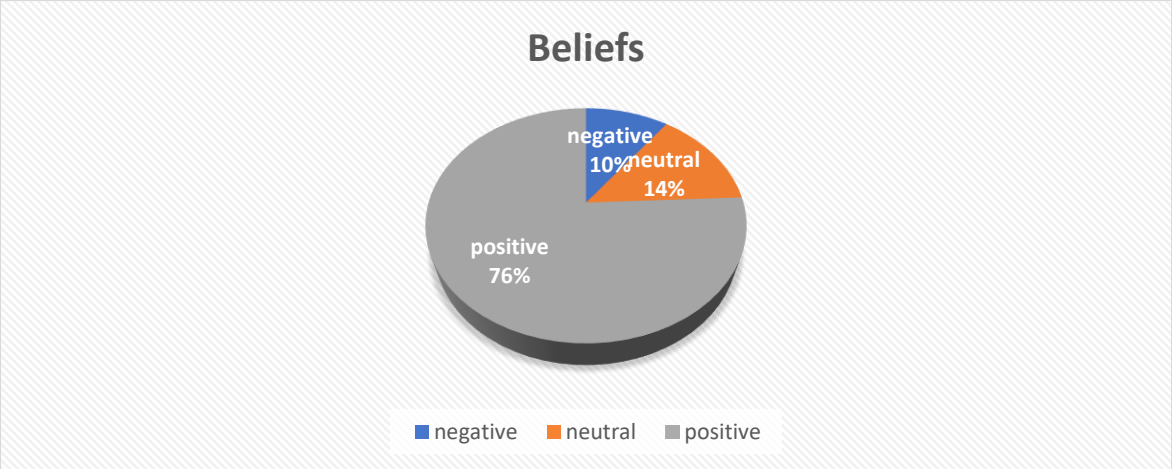

Figure (2) illustrates that, the Beliefs of oncology patients toward complementary therapy. The figure confirms that the majority (76%) of patients had a positive belief toward complementary therapy, 14% had a neutral (neither positive nor negative belief), while only 10 % of patients had a negative belief toward complementary therapy.

Table 4 Correlation between study variables (Total Knowledge, Total CAM Use, Total attitude and Total belief)

Variables	**Total Knowledge and Total CAM Use**
r	-.033-
P value	.595
Variables	**Total attitude and Total CAM Use**
r	.155*
P value	.011
Variables	**Total beliefs and Total CAM Use**
r	.247**
P value	.000
Variables	**Total beliefs and Total knowledge**
r	-.149-*
P value	.015
Variables	**Total beliefs and Total Attitude**
r	.697**
P value	.000

According to Table (4), there is no statistically significant relationship between cancer patients' awareness of CAM and their use of it (r = -0.033 & P = 0.595). In addition, a positive association was established between respondents' total attitudes and their use of CAM (r = 0.155, P = 0.011), and between respondents' total beliefs and their use of CAM (r = 0.247, P = 0.000). The attitudes of cancer patients about CAM have also been shown to be negatively correlated with their overall level of knowledge (r = -0.149, P = 0.015). Attitude toward complementary and alternative medicine (CAM) is positively correlated with overall outlook among cancer patients (r = 0.697, P 0.0001).

Discussion

With the proliferation of patient testimonials about their good experiences with CAM in the age of the Internet and social networking, there has been a global uptick in interest in CAM. A sizable percentage of cancer patients utilize CAM in addition to conventional medical treatment, despite remarkable advances in cancer care. Only a small number of researches have examined the relationship between cancer patients' knowledge and attitude toward CAM. The data gathered from these results and discoveries is useful for planning further studies of this group. This section analyzes and discusses the study's most important results in light of the study's overarching principles and draws parallels with similar scientific investigations. It is structured around the primary ideas explored, including CAM use and its ramifications for both theoretical and practical nursing practice. The report concludes with a discussion of the study's shortcomings and recommendations for further investigation in the field. In this section, we'll talk about the research questions that were asked, and we'll provide the findings from our statistical analyses of the study variables.

Half of the participants in this research were 50 or older, while the youngest were in the 20s and 30s, as determined by demographic analysis. The ineffectiveness of cellular repair systems with age, More than a third of oncology patients were among patients aged 35–64, with a mean age of 49.112.8 years, which is consistent with research by Kocasli and Demircan (2017) titled "Herbal product usage by the cancer patients in both the pre and post-surgery periods and during chemotherapy."(12).

More than half of the patients in this research were female, and the great majority were married, as shown by the data. The majority of cancer patients were female and over two thirds of them were married, according to research titled "Nutritional awareness and dietary variety of cancer patients at the cancer treatment center, Kenyatta national hospital, Kenya. (13). Hence these finding conflicts with that. One possible explanation for this discrepancy is that Muthike et al. chose children who were at least 15 years old, whereas the patients in the present research were all adults.

Twenty-five percent have no formal education, while other forty-nine percent have just a high school diploma or less. This finding is consistent with that of Abuelgasim et al. (2018), who examined the use of CAM by cancer patients in Saudi Arabia and found that 23% of them had no formal education beyond high school .(14). In addition, the new results corroborate those of Prince (2013), who found that over half of patients had not finished basic school. (15). Liu et al., (2016), however, found that the vast majority of their patients had at least a high school diploma; therefore this finding seems to contradict them. This dissimilarity might be attributable to the cultural differences across the study locations. (16).

Approximately 50% of the patients were also jobless. As Kocasli and Demircan (2017) pointed out, this is in line with the reality that over half of cancer patients are also jobless. Cancer patients' health conditions, which include weariness and joblessness, may be linked to these results. According to the results of the present research, the most common kind of cancer among patients is solid tumors, while more than a third of patients have hematological malignancy. Abuelgasim et al. (2018) observed that the majority of their study's participants had been diagnosed with solid tumors, which is consistent with the results of this study on CAM usage by cancer patients in Saudi Arabia. (17).

History of Involvement with and Education on Complementary Therapies: The great majority of patients in this research benefited from the usage of complementary therapies. Most cancer patients examined reported using zamzam

water, water read upon Quran, or reciting the Quran, but only a small percentage reported using honey or camel products as CAM (milk and urine). Abuelgasim et al. (2018) obtained results that were quite similar to those of the current study, namely that CAM of a religious character was the most often practiced form of CAM among the population under study. These results contradict those reported in other Middle Eastern nations where honey and herbal medicines are more extensively utilized, such as Iran, Jordan, Turkey, and Egypt .(18). In addition, the fatal Middle East respiratory syndrome coronavirus (MERS-CoV) has been linked to contact with camels and consumption of raw camel milk (19). Therefore, it is essential for medical professionals in the Middle East area, particularly those caring for cancer patients, to inform their patients of the possible dangers of utilizing camel products.

According to the results of this research, none of the patients surveyed had enough awareness about complementary therapies. In the present, a score of 70 on a knowledge scale is considered average. Comparing this result to the one found by Muthike et al. (2015), who found that the average overall knowledge score was 45.9% 2, we see that they are quite close. This finding is in line with that of Fatehallah et al. (2019), who found that most patients lacked adequate knowledge of how to use complementary and alternative medicine, and it is also close to the findings of Muthike et al. (2015), who studied the nutritional knowledge and dietary diversity of cancer patients at the cancer treatment center at Kenyatta National Hospital in Kenya and found that the average patient had a score of 45 on a 100-point scale. In contrast, Prince's (2013) research found that just around 5% of cancer patients' caregivers had above-average understanding of food treatment, while 75% had knowledge at or above the average level, and 25% had below-average knowledge.

These findings are at odds with those of a study by Berretta et al. (2017), which found that more than a quarter of oncology patients knew something about complementary therapy in general, that about a third of patients knew something about the benefits of complementary therapy, and that about an eighth of patients knew something about the side effects of complementary therapy. (20). There are less reliable scientific resources for information about complementary treatment, and there is a difference in the methods utilized, both of which may account for the variance. In this paragraph, we see that patients generally had little background information on complementary therapies. Many oncology patients use complementary therapy without informing or communicating this to their health care provider (21), which raises the risk of using complementary therapy because it means patients are using it based on their own knowledge, which has been shown to be insufficient. Therefore, it's crucial to work hard to raise cancer patients' awareness of alternative treatment options. One possible explanation for this discrepancy is that researchers in the two fields use different methodologies. Another possible explanation is that researchers in the two fields have different levels of education, or that one study simply doesn't have access to complementary therapy specialists or to information about complementary therapy in general.

When asked where they learned about complementary and alternative therapy, the vast majority of cancer patients in this survey cited friends and family, followed by herbal medicine practitioners, and then religious leaders. These results are comparable to those found by Atteiah et al. (2020) in their study of the prevalence of complementary and alternative medicine use in brain tumor patients in Saudi Arabia; the majority of the study's users obtained information and recommendations from friends and family members, while about 20% obtained information from Complementary and alternative medicine therapists.(22).

Cobb (2016) reported that most of the general population had a positive attitude toward CAM use, with a mean of 55.48 9.83 out of 76, and Fatehallah et al., 2019 assessed CT care (including knowledge and attitudes) among oncology patients in Egypt and found that most of the patients had a positive attitude toward CAM use. The researcher may be able to trace some of the observed means' discrepancies to inherent methodological heterogeneity. The most influential aspect in whether or not patients adopt CAM is their own mentality. Patients' generally optimistic views about CAM are one explanation for its widespread adoption; nonetheless, such views must be grounded in accurate information to guarantee patients' safety and make the most of the therapy's potential benefits. As far as the studies show, patients have a favorable outlook on CAM. Based on what we know from the research, patients' perspectives are the most influential element in determining whether or not they make use of complementary therapies. Therefore, the

widespread usage of complementary treatment may be interpreted as a result of the positive attitude of the patients who use it; nevertheless, this positive attitude must be founded on adequate information to guarantee patients' safety and optimize the benefit from complementary therapy. (23).

Total attitude was shown to have a statistically significant positive link with CAM usage (r = 0.155 & P = 0.011). The present result also shows that there is a very significant positive association between Total beliefs and CAM use (r = 0.247& P = 0.000). This finding is consistent with that of Kuo et al. (2018), who investigated the relationship between cancer patients' perceptions of the effects of their disease, their trust in CAM, and their quality of life. How much do people's preconceived notions about complementary and alternative medicine (CAM) affect how often they utilize it? Using a cross-sectional survey conducted in 2019, researchers discovered a strong correlation between cancer patients' CAM usage, perspectives, and outlooks. The authors also proposed that tailoring integrative oncology programs to patients' attitudes and beliefs might facilitate the removal of obstacles and result in better patient-centered treatment (24-25).

Conflict of Interest: No conflict of interest

Conclusion: The majority of cancer patients in this research reported using Zamzam water (82.5%), reciting Quran (66%), and other complementary therapies (86.7%). 26.9% of CAM users said they drank camel milk. While the survey found that all cancer patients had an inadequate understanding of complementary therapies, the vast majority of oncology patients had favorable views of these approaches. The patients with cancer who were evaluated also showed a very statistically significant relationship between their beliefs and their usage of CAM. However, there was no link between cancer patients' level of education and their usage of CAM.

Recommendation:

- Complete, accurate and proper documentations of complementary therapy used by patients

- Establish a special clinic in oncology settings for instructing and guiding patients about complementary therapy use and referring them to specialists.

- Prepare brochures with scientific information about complementary therapy for patients.

- Replications of the study using a larger probability sample selected from different geographical areas in KSA.

- Conduct further studies to evaluate the impact of educational program regarding complementary therapy on oncology patients' outcome.

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