

ORIGINAL ARTICLE

Evaluation of Health Perceptions with the Use of Traditional and Complementary Medicine in Patients Receiving Radiotherapy

Radyoterapi Alan Hastalarda Geleneksel ve Tamamlayıcı Tıp Kullanımı ile Sağlık Algılarının Değerlendirilmesi

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ABSTRACT

Aim: This study aims to evaluate the attitudes of cancer patients receiving Radiotherapy (RT) toward Traditional and Complementary Medicine (TCM), their health perceptions, the TCM methods they employ, and the connections between these factors.

Methods: This descriptive, cross-sectional, and correlational study was conducted with 82 patients receiving treatment at the Radiation Oncology Clinic of Selçuk University Faculty of Medicine Hospital. Data were collected using a demographic information form, the Attitudes Toward Traditional and Complementary Medicine Scale (CACMAS), and the Perception of Health Scale (PHS).

Results: A total of 52.4% of participants reported using TCM methods, with the most commonly used methods being religious practices (87.8%), manipulative approaches (massage and reflexology; 46.4%), phytotherapy (31.7%), meditation (12.2%), hypnosis (4.9%), guided imagery (2.4%), and energy-based approaches (Reiki, bioenergy, and healing energy; 1.2%). Among the participants, 26.8% obtained information from family, 14.7% from TV and social media, 12.2% from healthcare professionals, and 46.3% reported not knowing TCM. The mean CACMAS score was 97.21±30.74, and the mean PHS score was 43.48±9.01. Participants who perceived their economic status as poor had significantly higher CACMAS scores ($p<0.05$). Although no direct strong correlation was found between the CACMAS and PHS scores, strong positive correlations were observed between the 'Cognitive Perspective on Complementary Medicine' subscale and moderate positive correlations with the 'Dissatisfaction with Modern Medicine' and 'Holistic Perspective on Health' subscales.

Conclusions: This study demonstrates that the sociodemographic characteristics, disease stages, and economic conditions of cancer patients undergoing RT may influence their use of TCM methods and health perceptions. Among participants, the most frequently preferred methods were religious practices, manipulative approaches, and phytotherapy, with most individuals utilizing these methods based on information obtained from social media, family, and their social circles.

Keywords: Cancer, Health Perception, Radiotherapy, Traditional and Complementary Medicine

Öz

Amaç: Bu çalışma, radyoterapi alan kanser hastalarının Geleneksel ve Tamamlayıcı Tıp'a yönelik tutumlarını, sağlık algılarını ve kullandıkları yöntemleri inceleyerek, bu unsurlar arasındaki ilişki değerlendirmeyi amaçlamıştır.

Gereç ve Yöntemler: Tanımlayıcı, kesitsel ve ilişkisel bir tasarıma sahip olan bu çalışma, Selçuk Üniversitesi Tıp Fakültesi Hastanesi Radyasyon Onkolojisi Kliniği'nde tedavi gören 82 hasta ile gerçekleştirilmiştir. Veriler, tanıtıcı bilgi formu, Geleneksel ve Tamamlayıcı Tıp'a Karşı Tutum (GETAT) Ölçeği ve Sağlık Algısı Ölçeği (SAÖ) kullanılarak toplanmıştır.

Bulgular: Katılımcıların %52.4'ü GETAT yöntemlerini tercih etmiş, en sık kullanılan yöntemler arasında dini uygulamalar (%87.8), manipülatif yaklaşımlar (masaj ve refleksoloji; %46.4), fitoterapi (%31.7), meditasyon (%12.2), hipnoz (%4.9), hayal kurma teknikleri (%2.4) ve enerji yaklaşımları (reiki, bioenerji ve şifa enerjisi; %1.2) yer almıştır. Katılımcıların %26.8'i bilgiyi aileden, %14.7'si TV ve sosyal medyadan, %12.2'si sağlık profesyonellerinden edindiğini, %46.3'ü ise GETAT hakkında bilgi sahibi olmadığını belirtmiştir. CACMAS puan ortalaması 97.21±30.74, PHS puan ortalaması ise 43.48±9.01 olarak bulunmuştur. Ekonomik durumu kötü algılayan bireylerin CACMAS puanlarının anlamlı derecede yüksek olduğu belirlenmiştir ($p<0.05$). GETAT ve SAÖ arasında doğrudan güçlü bir ilişki bulunmama karşılığında, CACMAS alt boyutlarından "Tamamlayıcı Tıbbı Düşünsel Bakış" ile güçlü, "Modern Tıbbı Memnuniyetsizlik" ve "Sağlığa Bütüncül Bakış" ile orta düzeyde pozitif ilişkiler saptanmıştır.

Sonuçlar: Bu çalışma, radyoterapi alan kanser hastalarının sosyodemografik özelliklerinin, hastalık evrelerinin ve ekonomik durumlarının GETAT yöntemleri ve sağlık algıları üzerinde etkili olabileceğini ortaya koymuştur. Katılımcıların arasında en sık tercih edilen yöntemler dini uygulamalar, manipülatif yaklaşımlar ve fitoterapi olup, bu yöntemler çoğunlukla sosyal medya, aile ve çevreden edinilen bilgilerle kullanılmaktadır.

Anahtar Kelimeler: Geleneksel ve Tamamlayıcı Tıp, Kanser, Radyoterapi, Sağlık Algısı

Introduction

Traditional and Complementary Medicine (TCM) restore body balance through natural and holistic encompasses methods that have been practiced approaches to support patients' health and improve across various cultures for thousands of years to their recovery. In Türkiye, practices such as acupuncture, promote health and well-being, often complementing phytotherapy, hypnosis, ozone therapy, and reflexology modern medicine. The primary goal of TCM is to are officially regulated by the Regulation on

Traditional and Complementary Medicine Practices, published in 2014 (1). However, further research and standardizations are necessary to ensure the efficacy and safety of these practices. Attitudes toward TCM are influenced by cultural background, educational level, and personal beliefs. While some view TCM as complementary to modern medicine, others consider it an alternative to conventional treatments. Certain TCM practices, particularly those of Chinese origin, have gained increasing attention in recent years, with approximately half of the population in developed countries reportedly using these methods (2, 3). Although TCM is often described as offering holistic care that promotes self-care and well-being, concerns persist regarding health risks associated with unregulated practices. For example, improper use of herbal remedies can lead to toxic effects, while neglecting prescribed medications may pose serious risks. Additionally, relying on unreliable information sources may prevent individuals from finding effective and safe solutions to their health issues (3, 4).

Cancer patients resort to TCM for various reasons including personal beliefs, stress reduction, previous positive experiences, physical improvement, perceived safety, recommendations from family and friends, and managing side effects of conventional treatments such as fatigue, nausea, vomiting, and diarrhea (5). For cancer patients, it is crucial to opt for reliable and evidence-based treatment methods and avoid debatable practices. This is particularly important in managing symptoms like pain, which can arise at any stage of the disease. Understanding the TCM methods preferred by cancer patients and their health perceptions is a valuable area of research (6-9). The use of TCM among cancer patients undergoing RT has gained significance due to its potential to alleviate treatment-related side effects and improve quality of life. TCM methods are progressively used to manage symptoms such as fatigue, pain, and anxiety, which are common among this patient group (10). Existing literature indicates that practices like acupuncture, phytotherapy, meditation, and aromatherapy during RT could be potentially beneficial for alleviating physical and psychological symptoms. However, further scientific data are needed to validate the effectiveness and safety of these methods (11). The practice of TCM is closely linked to patients' health perceptions, treatment attitudes, knowledge levels, and cultural beliefs. Identifying the characteristics and motivations of patients who practice TCM during RT

may aid in developing a holistic care model (12).

Health perception refers to an individual's thoughts, feelings, expectations, and biases regarding their health. A positive health perception, defined as 'good health perception,' is linked to a greater tendency to adopt and maintain health-promoting behaviors. Conversely, negative health perceptions, or 'poor health perception,' may hinder such behaviors. Individuals with an internal center of control over their health are more likely to prioritize their well-being, adopt healthy lifestyles, and explore alternative care approaches (13). For cancer patients, health perception is particularly complex due to the physical, psychological, and social impacts of the disease. Their health perception is shaped not only by the diagnosis and treatment process but also by their self-efficacy and overall outlook on health. A cancer diagnosis often triggers anxiety, stress, and uncertainty, which can adversely affect quality of life (14). Moreover, the methods employed during treatment and the approach of healthcare professionals play a significant role in shaping health perception. Supportive care, psychological support, and patient education are crucial for enhancing health perception, improving treatment adherence, and boosting overall quality of life (15, 16).

This study aimed to evaluate the health perceptions and TCM usage of patients undergoing RT. During RT, patients' perceptions of treatment and attitudes toward health are crucial factors influencing their adherence to treatment and overall well-being. In addition, the relationship between patients' health perceptions and their inclination toward TCM methods is examined.

What are the average CACMAS scores of patients undergoing RT?

What are the health perceptions of patients receiving RT?

What TCM methods are used by patients undergoing RT?

It is also recommended to add the following research question: Is there a relationship between CACMAS and PHS scores of patients undergoing RT?

Materials and Methods

Design

This descriptive, cross-sectional, and correlational study was conducted between October and December

2024.

Participants and Setting

The participants in this study are cancer patients undergoing treatment at the Radiation Oncology Clinic of Selçuk University Faculty of Medicine Hospital. The sample size was calculated using the G*Power 3.1.9.4 software with a 95% confidence level. Based on the mean score (103.99 ± 22.03) from the 'CACMAS' scale in a study conducted by Dursun et al. (2019), the effect size was determined to be 0.40853, and the required sample size was calculated to be 67 participants with 95% power and a 95% confidence interval (17). Considering potential data loss and participant dropout, a 20% increase was added to the sample size, resulting in a total of 82 participants. Inclusion criteria for the study included patients undergoing RT who were literate and agreed to participate. Exclusion criteria included patients under 18 years of age, illiterate individuals, those who refused to participate, patients with recurrent diseases, individuals without a histologically confirmed diagnosis, and those unable to communicate for any reason.

Data Collection

Data for the study were collected through face-to-face interviews with patients receiving treatment at the Radiation Oncology Clinic of Selçuk University Medical Faculty Hospital, using a structured questionnaire. The data were gathered during outpatient clinic visits of patients undergoing RT. All participants were informed about the study's purpose and content, and their voluntary consent was obtained before administering the questionnaire. The process adhered to ethical principles, and the survey took approximately 15 to 20 minutes to complete. A total of 82 patients participated in the study and completed the questionnaire.

Data Collection Tools

The data about demographic characteristics were collected using a form prepared by the researchers. In addition, the Complementary, Alternative, and Conventional Medicine Attitude Scale (CACMAS) and the Perception of Health Scale (PHS) were used.

Demographic Information Form

The form, developed by the researchers based on the existing literature, included questions about participants' sociodemographic characteristics, disease status, medication usage, and other relevant information (11, 12, 17).

Complementary, Alternative, and Conventional Medicine Attitude Scale (CACMAS)

The CACMAS was developed by McFadden et al. (2010) and adapted into Turkish, with its validity and reliability established by Köse et al. (2018) (18). There is no cutoff score for the scale, and higher scores reflect a more positive attitude toward traditional and complementary medicine (TCM). The scale consists of 22 positive items and 5 negative items. Negative items were reverse-scored during the analysis. The items are scored on a 7-point Likert scale, with 1 indicating 'strongly disagree' and 7 indicating 'strongly agree.' The scale comprises three subscales, which are: 'Cognitive Approach to Complementary Medicine,' 'Dissatisfaction with Modern Medicine,' and 'Holistic View of Health. In this study, the Cronbach's alpha coefficient for the scale was calculated to be 0.747 (4).

Perception of Health Scale (PHS)

The PHS, developed by Diamond et al., consists of 15 items scored on a 5-point Likert scale. The scale includes four subdimensions, which are: 'Center of Control,' 'Self-Awareness,' 'Certainty,' and 'Importance of Health.' The validity and reliability of the Turkish version were established by Kadioğlu and Yıldız in 2012 (13). Negative items were reverse-scored during the analysis. The total score on the scale ranges from 15 to 75, with higher scores indicating a better health perception. In this study, the Cronbach's alpha coefficient for the scale was calculated to be 0.745.

Data Analysis

The data were analyzed using version 22.0 of the Statistical Package for the Social Sciences (SPSS). The Kolmogorov-Smirnov test was used to assess the normality of the data distribution. Descriptive statistics, such as frequency, percentage, mean, and standard deviation were used. For comparative analyses, one-way ANOVA and Pearson correlation were used. The absolute values of Pearson correlation coefficient (r) were interpreted as follows: 0–0.19 = very weak, 0.2–0.39 = weak, 0.4–0.59 = moderate, 0.6–0.79 = strong, and 0.8–1 = very strong correlation (19). Statistical significance was considered at $p < 0.05$.

Ethical Considerations

Patients were evaluated after the approval was obtained from the Ethics Committee (Decision No: 2024/646). The study followed the principles of the Declaration of Helsinki and adhered to ethical

guidelines throughout all stages. Participants were informed about the purpose of the study and the data collection tools and their consent was obtained in the first question of the online survey. Permission to use the scales was obtained from the authors via email.

Results

The distribution of marital status, gender, place of residence, and economic status perception is considered. Regarding marital status, 76.8% of participants were married, and 23.2% were single. In terms of gender, 45.1% of the participants were female and 54.9% were male. Regarding place of residence, 46.3% of the participants lived in urban areas, 31.7% in districts, and 22.0% in villages. Concerning the perception of economic status, 15.8% perceived their economic status as good, 42.7% as moderate, and 41.5% as poor. Regarding marital status, the mean

CACMAS score for married individuals was 96.95±22.08, while the mean PHS score was 44.04±9.63. As for single individuals, the mean CACMAS score was 96.64±21.21, while the mean PHS score was 41.63±6.39. In terms of gender, females had a mean CACMAS score of 97.23±19.59 and a mean PHS score of 41.73±7.48, while males had a mean CACMAS score of 96.61±23.57 and a mean PHS score of 44.93±9.95. Based on place of residence, individuals living in urban areas had a mean CACMAS score of 95.05±23.97 and a mean PHS score of 41.03±6.32. Those living in districts had a mean CACMAS score of 99.38±23.39 and a mean PHS score of 46.65±12.55, while individuals in villages had a mean CACMAS score of 97.06±12.35 and a mean PHS score of 44.11±6.25. Concerning the perception of economic status, individuals perceiving their economic status as good had a mean CACMAS score of 90.03±17.35 and a mean PHS score of 42.67±7.18. Individuals who

Table 1. Distribution of Mean Scores of CACMAS and PHS According to Socio-Demographic Characteristics of Patients

Variables	Mean±SD	Min-Max	CACMAS Mean±SD	PHS Mean±SD
Age	62.93±12.67	28-83		
Test Value			r: -0.198	r: -0.029
p			p: 0.099	p< 0.799
	n	%		
Marital Status				
Married	63	76.8	96.95±22.08	44.04±9.63
Single	19	23.2	96.64±21.21	41.63±6.39
Test Value			t: 0.051	t: 1.025
p			p: 0.960	p: 0.309
Gender				
Female	37	45.1	97.23±19.59	41.73±7.48
Male	45	54.9	96.61±23.57	44.93±9.95
Test Value			t: 0.124	t: -1.615
p			p: 0.902	p: 0.110
Place of residence				
Urban ¹	38	46.3	95.05±23.97	41.03±6.32
District ²	26	31.7	99.38±23.39	46.65±12.55
Rural ³	18	22.0	97.06±12.35	44.11±6.25
Test Value			F: 0.298	F: 3.234
p			P: 0.744	p: 0.045
Significance*				1<2
Perceived economic status				
High ¹	13	15.8	90.03±17.35	42.67±7.18
Moderate ²	35	42.7	99.83±28.51	41.91±11.51
Low ³	34	41.5	102.88±21.78	45.44±6.11
Test Value			F: 3.323	F: 1.407
p			p< 0.045	p: 0.251
Significance*			3>2	

t: Independent groups t-test. F: ANOVA test. r: Pearson correlation *Tukey HSD, CACMAS: Alternative and Conventional Medicine Attitude Scale, PHS: Perception of Health Scale

perceived their economic status as moderate had a mean CACMAS score of 99.83 ± 28.51 and a mean PHS score of 41.91 ± 11.51 , while those who perceived their economic status as poor had a mean CACMAS score of 102.88 ± 21.78 and a mean PHS score of 45.44 ± 6.11 . A statistically significant difference was found in the PHS scores based on place of residence, with individuals living in districts (46.65 ± 12.55) scoring significantly higher than those in urban areas (41.03 ± 6.32) ($p < 0.05$). Regarding the perception of economic status, individuals who perceived their economic status as poor had significantly higher CACMAS scores (102.88 ± 21.78) compared to those with a moderate

perception of economic status (99.83 ± 28.51) ($p < 0.05$) (Table 1).

The study also assessed the distribution of histopathological stage, cancer type, treatment method, comorbidity, and smoking status. Among the participants, 43.9% were in stage 2, 31.7% in stage 3, and 13.4% in stage 4. Regarding cancer type, prostate cancer had the highest proportion at 32.9%, while skin cancer had the lowest (3.7%). Regarding treatment methods, 55.6% underwent only RT, while 44.4% underwent both RT and surgery. Comorbidities were present in 48.8% of participants, while 51.2% had no comorbidities. Additionally, 76.8% of participants

Table 2. Distribution of Mean CACMAS and PHS Scores According to Patients' Health Characteristics

Variables	n	%	CACMAS Mean \pm SD	PHS Mean \pm SD
Histopathological Stage				
Stage I	9	11.0	92.22 \pm 20.41	38.88 \pm 7.52
Stage II	36	43.9	96.77 \pm 21.69	42.25 \pm 6.83
Stage III	26	31.7	101.56 \pm 22.23	48.26 \pm 10.90
Stage IV	11	13.4	89.800 \pm 22.35	40.00 \pm 7.38
Test Value			F: 0.872	F: 4.517
p			p: 0.460	p: 0.006
Significance*				4>3>2
Cancer Type				
Lung Cancer	7	8.5	93.85 \pm 26.79	44.28 \pm 7.45
Breast Cancer	17	20.7	97.12 \pm 22.17	43.76 \pm 7.36
Gynecological Cancer	13	15.9	101.69 \pm 17.89	39.38 \pm 7.21
Prostate Cancer	27	32.9	96.44 \pm 23.77	46.55 \pm 11.58
Head-Neck Cancer, Sarcoma	15	18.3	97.07 \pm 21.48	40.66 \pm 6.69
Skin Cancer	3	3.7	85.00 \pm 13.89	44.33 \pm 4.04
Test Value			F: 0.321	F: 1.526
p			p: 0.899	p: 0.192
Treatment				
RT	65	55.6	94.56 \pm 21.25	44.67 \pm 10.36
RT+Surgery	52	44.4	99.90 \pm 25.46	41.95 \pm 7.01
RT+Surgery+CT			98.83 \pm 18.90	42.44 \pm 7.49
Test Value			F: 0.491	F: 0.794
p			p: 0.614	p: 0.456
Presence of Comorbidities				
Yes	40	48.8	95.61 \pm 19.99	42.20 \pm 6.24
No	42	51.2	98.12 \pm 23.54	44.71 \pm 10.96
Test Value			t: -0.510	t: -1.268
p			p: 0.611	p: 0.209
Smoking Status				
Yes	19	23.2	95.68 \pm 21.70	42.68 \pm 6.29
No	63	76.8	97.26 \pm 21.94	43.73 \pm 9.71
Test Value			t: -0.275	t: -0.441
p			p: 0.784	p: 0.660

t: Independent groups t test. F: ANOVA test. r: pearson korelasyon, CACMAS: Alternative and Conventional Medicine Attitude Scale, PHS: Perception of Health Scale, RT: Radiotherapy, CT: Chemotherapy

reported being non-smokers, while 23.2% were smokers. Based on histopathological stage, the mean CACMAS and PHS scores were as follows: stage 1 (92.22±20.41, 38.88±7.52), stage 2 (96.77±21.69, 42.25±6.83), stage 3 (101.56±22.23, 48.26±10.90), and stage 4 (89.80±22.35, 40.00±7.38). A significant difference was found in PHSS scores between stages, with stage 1 having significantly lower scores than stage 2 (p=0.006). Regarding cancer type, the highest CACMAS score was observed in gynecological cancers (101.69±17.89), while the lowest was found in skin cancer (85.00±13.89). For PHS scores, the highest was observed in prostate cancer (46.55±11.58), while the lowest was found in gynecological cancers (39.38±7.21). However, these differences were not statistically significant (p > 0.05). Regarding treatment methods, participants undergoing only RT had a mean CACMAS score of 94.56±21.25 and a mean PHS score of 44.67±10.36. Those undergoing both RT and surgery had a mean CACMAS score of 99.90±25.46 and a mean PHS score of 41.95±7.01, with no significant differences (p>0.05). Participants with comorbidities had a mean CACMAS score of 95.61±19.99 and a mean PHS score of 42.20±6.24. On the other hand, those without comorbidities had a mean CACMAS score of 98.12±23.54 and a mean PHS score of 44.71±10.96. No significant differences were observed (p>0.05). Smokers had a mean CACMAS score of 95.68±21.70 and a mean PHS score of 42.68±6.29, while non-smokers had a mean CACMAS score of 97.26±21.94 and a mean PHS score of 43.73±9.71. No significant differences were found (p>0.05) (Table 2).

Among the participants, 53.7% reported knowing CACMAS, while 46.3% stated they did not. Sources of information included family (26.8%), TV/social media (14.7%), and healthcare professionals (12.2%). A total of 46.3% of participants reported not knowing CACMAS. Among the participants, 52.4% preferred using CACMAS methods, and 59.8% believed these methods were beneficial. Regarding the frequency of use, 31.7% reported using CACMAS whenever possible, 8.5% used it 1–2 times a week, and 17.1% used it 1–2 times a month. Additionally, 61% of participants reported being aware of the risks associated with using CACMAS. Reasons for use included recommendations from others (15.9%), challenges of medical treatments (4.9%), side effects (2.4%), and perceived safety of alternative treatments (9.8%). While undergoing RT, 12.2% of participants reported using CACMAS methods, with religious practices (87.8%) being the

most common, followed by phytotherapy (31.7%) and manipulative approaches (46.4%). Other methods such as meditation, hypnosis, imagery, and energy therapies were used less frequently (Table 3).

Table 3. Patients' TCM Usage Status

Variables	n	%	
Knowledge About TCM			
Yes	44	53.7	
No	38	46.3	
Source of Information on TCM			
Family Members	22	26.8	
TV and Social Media	12	14.7	
Healthcare Professionals	10	12.2	
Unaware of the Source	38	46.3	
Preference of TCM			
Yes	43	52.4	
No	39	47.6	
Perception of TCM as Beneficial			
Yes	49	59.8	
No	33	40.2	
TCM Usage Frequency			
As Frequently as Possible	26	31.7	
1–2 Times per Week	7	8.5	
1–2 Times per Month	14	17.1	
Awareness of Risks Associated with TCM Use			
Yes	50	61.0	
No	32	39.0	
Reasons for TCM Use			
Social Influence and Recommendations	13	15.9	
Challenges in Conventional Medical Treatment	4	4.9	
Managing Side Effects of Medical Treatment	2	2.4	
Perception of Alternative Treatments as Safe	8	9.8	
TCM Use During RT			
Yes	10	12.2	
No	72	87.8	
TCM Methods			
	Yes n	No n	%
Meditation	4	78	4.9
Religious Practices	72	10	87.8
Hypnosis	2	80	2.4
Relaxation Exercise	15	67	18.3
Visioning	8	74	9.8
Manual Therapies: Massage, Physical Exercise	38	44	46.4
Energy-Based Therapies: Reiki, Acupressure, Reflexology	7	75	8.5
Alternative Systems I: Acupuncture	7	75	8.5
Alternative Systems II: Leech Therapy	6	76	7.8
Phytotherapy	26	56	31.7

TCM: Traditional and Complementary Medicine, RT: Radiotherapy

The average CACMAS Scale score was found 97.21±30.74. Subscale scores were as follows: Cognitive Approach to Complementary Medicine (28.81±11.74), Dissatisfaction with Modern Medicine (23.13±10.45), and Holistic View of Health (45.21±9.99). The mean PHS scale score was 43.48±9.01, with subscale scores as follows: Center of Control (16.47±6.50), Self-Awareness (7.60±2.54), Certainty (13.40±3.49), and Importance of Health (6.00±2.24) (Table 4).

Table 4. Distribution of Patients' Mean Scores Across CACMAS and PHS Subscales

Scales and Subdimensions	Number of Items	Mean±SS	Min-Max	Cronbach alpha
CACMAS	27	97.21±30.74	51-158	0.747

Intellectual View of Complementary Medicine	8	28.81±11.74	8-56
Dissatisfaction with Modern Medicine	10	23.13±10.45	10-57
Holistic View of Health	9	45.21±9.99	9-63
PHS	15	43.48±9.01	27-96
Center of Control	5	16.47±6.50	6-61
Self-Awareness	3	7.60±2.54	3-13
Certainty	4	13.40±3.49	4-20
Importance of Health	3	6.00±2.24	3-14

CACMAS: Alternative and Conventional Medicine Attitude Scale, PHS: Perception of Health Scale

The CACMAS showed a strong positive correlation with a Cognitive Approach to Complementary Medicine ($r = .839$), a moderate correlation with Dissatisfaction with Modern Medicine ($r = .592$), and a moderate correlation with Holistic View of Health ($r = .557$). The PHS Scale showed a strong positive correlation with the Center of Control ($r = .869$), a moderate correlation with the Certainty subscale ($r = .620$), and a weak correlation with the Importance of Health subscale ($r = .382$). A weak correlation was found between the CACMAS and the PHS ($r = .217$), with a significant correlation observed between Certainty and the PHS Scale ($r = .251$). Additionally, positive correlations were found between Certainty and Center of Control ($r = .468$) and between the Importance of Health and Self-Awareness ($r = .404$) (Table 5).

Discussion

Table 5. Correlation Between CACMAS and PHS Scores

	1	2	3	4	5	6	7	8	9
CACMAS Scale	1								
Intellectual View of Complementary Medicine	.839**	2							
Dissatisfaction with Modern Medicine	.592**	.313**	3						
PHS Holistic View of Health	.557**	.297**	-0.151	4					
Control Center	0.164	0.213	0.117	-0.019	5				
PHS Perception of Health Scale	0.217	0.21	0.189	0.025	.869**	6			
PHS Importance of Health	-0.018	-0.065	0.045	0.189	0.042	.382**	7		
Self-Awareness	0.029	-0.041	0.026	0.065	-0.16	0.132	.404**	8	
Certainty	.251*	0.218	.222*	0.055	.468**	.620**	-0.03	-.350**	9

r: Pearson correlation coefficient. * $p < 0.05$. ** $p < 0.001$. CACMAS: Alternative and Conventional Medicine Attitude Scale, PHS: Perception of Health Scale

This study examines the relationship between patients' attitudes toward complementary and alternative medicine use, their health perceptions, and demographic characteristics. The findings provide important insights into the relationships between patients' perspectives on TCM, their dissatisfaction with modern medicine, and their holistic approach to health and health perceptions.

This study explores the use of TCM among patients undergoing RT by examining its prevalence and the reasons for their preference. The findings reveal that most patients (87.8%) use religious practices as the primary TCM method. This suggests that religious practices have a significant influence on individuals' perceptions of spiritual and physical well-being. Understanding the role of religious practices in health perception within Turkish culture can provide valuable guidance in clinical settings. Healthcare professionals, particularly those in culturally and religiously rich areas like Konya, should acknowledge patients' pursuit of spiritual healing and shape treatment processes accordingly (14). Integrating religious practices with modern medicine could improve patient compliance and treatment outcomes. The existing literature supports the frequent use of religious rituals as a coping mechanism, particularly among individuals with cancer (5, 20). Manipulative approaches (e.g., massage, exercise) were the second most commonly preferred method, with a prevalence of 46.4%. This highlights the common preference for methods that promote physical relaxation and stress management. However, the usage rates of energy-based approaches (e.g., Reiki, acupressure, reflexology) and alternative systems (e.g., acupuncture, leech therapy) remained notably low (8.5% and 7.8%, respectively), suggesting limited societal awareness or potential

concerns about their reliability. Accessibility and cost factors may also contribute significantly to these low usage rates (21). These findings are consistent with the existing literature (5).

The study found that the use of TSM during RT was relatively low at 12.2%. This suggests that healthcare professionals' warnings about the safety and efficacy of TCM have had a significant influence on patients.

During intensive treatment processes such as RT, patients tend to rely more on modern medicine and avoid alternative methods. According to the existing literature, the use of TSM in oncology is often limited due to a lack of communication with healthcare professionals or insufficient information about the side effects of these methods (4). The most common reason reported by patients for using TCM was recommendations from their social environment (15.9%), highlighting the clear influence of social circles on individuals' health behaviors. Additionally, reasons such as the challenges of medical treatment (4.9%) and the development of side effects (2.4%) were less commonly cited as reasons for opting for CACMAS. These findings demonstrate that while patients primarily trust modern medicine, they may evaluate complementary approaches under the influence of their social environment (5).

The study found no significant effect of age, marital status, or gender on the mean CACMAS scores. However, the place of residence variable showed a significant difference in health perception scores. Patients residing in district-level areas had higher health perception scores, suggesting that these individuals may have better access to healthcare services or a more consistent approach to health-related matters. A study conducted in Ghana on rural and urban populations revealed differences in health perceptions between rural and urban residents (22). Similarly, individuals with a 'poor' perception of their economic status had higher CACMAS scores, suggesting that economic conditions might drive individuals to seek alternative treatments. Another research conducted in Japan examined how social determinants influence the use of complementary and alternative medicine, finding that socioeconomic factors play a decisive role in TCM usage (23).

Perception of Health Scale (PHS) scores varied significantly across cancer stages. Patients in stage 3 had higher PHS scores, suggesting that these individuals may prioritize their health more or be more focused on combating their disease. These results align closely with the literature (24). However, there was no significant difference in CACMAS across cancer stages, suggesting that patients' inclination towards TCM might be independent of their disease stage. The literature indicates that as cancer progresses, patients' search for spiritual support and health-related self-awareness tends to increase, which is consistent with our findings (14). There was no significant difference in

either CACMAS or PHS scores based on cancer type, suggesting that patients with different types of cancer exhibit similar attitudes toward complementary and alternative medicine. However, the finding that breast cancer patients' CACMAS scores were similar to those of other groups suggests that this group might also be open to complementary therapies alongside modern medicine. Literature supports that breast cancer patients are more active in seeking psychological support and tend to opt for alternative methods during this process (5, 14).

No significant difference was found in CACMAS based on treatment types such as RT or surgery. However, patients undergoing only RT had slightly lower CACMAS, suggesting that this group relies more on modern medicine. Patients undergoing intensive treatment processes, such as RT combined with surgery or chemotherapy, may seek complementary support to alleviate side effects during treatment. The presence of comorbidities did not have a statistically significant effect on CACMAS or PHS scores. However, the lower CACMAS scores among patients with comorbidities suggest that these individuals may rely more on modern treatments. The presence of additional diseases may increase trust in conventional treatments or reduce interest in alternative methods. The literature indicates that individuals with multiple conditions typically show greater trust in modern medicine and limited interest in alternative approaches. No significant difference was found in PHS scores based on smoking status. However, patients who smoked had slightly lower PHS scores, implying that smoking may negatively affect their health perception. The literature frequently emphasizes that smoking can reduce overall health awareness and negatively impact health perceptions. Smoking should be regarded as a limiting factor in both disease management and the inclination toward alternative methods.

No significant correlation was found between the CACMAS and the PHS. However, a strong positive relationship was found between the subscales 'Cognitive Perspective on Complementary Medicine' and 'Dissatisfaction with Modern Medicine' in the CACMAS. This suggests that individuals dissatisfied with modern medicine are more likely to adopt a positive attitude toward complementary medicine. Additionally, significant correlations were found between the "Holistic Perspective on Health" subscale and the other TCM subscales. These findings suggest that individuals' attitudes toward TCM are connected

to a holistic view of health. The findings of our study reveal the relationship between patients' attitudes toward complementary and alternative medicine, their health perceptions, and their demographic characteristics. In particular, the fact that religious practices are the most frequently preferred TCM methods highlights how the perception of spiritual and physical well-being in Turkish culture is influenced by such practices. In this context, it is recommended that healthcare professionals recognize patients' search for spiritual support and tailor their treatment processes with cultural sensitivity. However, it is crucial that the healthcare team is adequately informed about safe TCM methods and provides guidance to patients in this regard. It is stated in the literature that oncology patients generally do not communicate adequately with healthcare professionals about the use of TCM or lack sufficient information about the side effects of these methods. For patients to safely use TCM methods alongside modern medical treatments, it is essential to enhance the knowledge of healthcare professionals. It is recommended that courses on TCM applications be incorporated more extensively into medical and nursing education programs, continuous education programs for the healthcare team be organized, and guideline documents be created on this subject. Additionally, regulations should be established to ensure the safe use of TCM within healthcare systems. Establishing TCM consultancy units in healthcare institutions, where patients can access reliable information, and integrating evidence-based methods into clinical guidelines would be an important step. Thus, patients can benefit from CAM methods without disrupting their modern medical treatments. Such arrangements will enhance patient safety and enable healthcare professionals to guide patients consciously.

Conclusion

This study significantly contributes to understanding how patients perceive the balance between modern medicine and complementary medicine, and how this perception influences their health views. "Healthcare professionals should develop effective communication strategies, especially with individuals dissatisfied with modern medicine, and provide reliable information about complementary medicine. Additionally, given the impact of demographic factors such as economic status and place of residence on TCM usage, it is recommended that local health policies be adjusted to address these factors. The cultural heritage of Konya

and Mevlana has profoundly influenced the Turkish community's perception of both spiritual and physical health. In this context, future research could further investigate the role of religious and spiritual practices in the use of TCM. Furthermore, understanding and incorporating spiritual practices into treatment processes could contribute positively to individuals' physical and mental well-being.

Conflict of interest

The author declares that there is no conflict of interest.

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References

1. Akalın B, İrban A, Özargun G. Türkiye'de geleneksel ve tamamlayıcı tıp uygulamalarının mevcut standartları ve iyileştirme önerileri. Sağlık Profesyonelleri Araştırma Dergisi. 2023;5(1):49-69.
2. Arevalo MVPN, Robredo JPG, Valenzuela S, et al. The role of traditional, complementary, and alternative medicine in cancer care in the Philippines. Chin Clin Oncol. 2022;11(6):49- .
3. Hoenders R, Ghelman R, Portella C, et al. A review of the WHO strategy on traditional, complementary, and integrative medicine from the perspective of academic consortia for integrative medicine and health. Front Med. 2024;11:1395698.
4. Kıskaç N, Kıskaç M, Zorlu M, Karatoprak C, Çakırca M. Erişkin bireylerin geleneksel ve tamamlayıcı tıp tutumlarının değerlendirilmesi. MAS J Appl Sci. 2024;9(1):127-134.
5. Yousefi M, Reihani H, Heydari M, Nasimi Doost Azgomi R, Hashempur MH. Complementary and alternative medicine use among cancer patients in Iran: A systematic review. Prev Med Rep. 2024;39:102644.
6. Ashrafizadeh H, Rassouli M. Traditional, complementary, and alternative medicine in cancer care: Challenges and opportunities. Asia Pac J Oncol Nurs. 2024;11(1).
7. Choi S, Karki Kunwor S, Im H, et al. Traditional and complementary medicine use among cancer patients in Asian countries: A systematic review and meta-analysis. Cancers. 2024;16(18):3130.
8. Samuels N, Ben-Arye E, eds. Integrative medicine for cancer-related pain: A narrative review. Healthcare. 2024.
9. Liu J, Mao JJ, Wang XS, Lin H. Evaluation of Traditional Chinese Medicine herbs in oncology clinical trials. Cancer J. 2019;25(5):367-371.
10. Fakhoury KR, Hu J, Kim E, et al. An integrative medicine

- educational program for radiation oncology patients: Patient-reported outcomes. *Adv Radiat Oncol.* 2024;9(2):101350.
- 11.Lettner S, Kessel KA, Combs SE. Complementary and alternative medicine in radiation oncology. *Strahlenther Onkol.* 2017;193(5):419-426.
- 12.Pihlak R, Liivand R, Trelin O, et al. Complementary medicine use among cancer patients receiving radiotherapy and chemotherapy: Methods, sources of information, and the need for counseling. *Eur J Cancer Care.* 2014;23(2):249-254.
- 13.Kadioğlu H, Yıldız A. Sağlık Algısı Ölçeği'nin Türkçe çevriminin geçerlilik ve güvenilirliği. *Türkiye Klin J Med Sci.* 2012;32(1):47-53.
- 14.Duzova US, Duzova M, Altinel B. The effect of sleep quality on attitudes toward death in breast cancer survivors. *Support Care Cancer.* 2024;32(10):1-12.
- 15.Menekli T, Doğan F, Elkıran ET. Kanserli hastalarda hastalık algısı ve yaşam kalitesi. *Harran Univ Med J.* 2020;17(3):467-474.
- 16.Danışkan İ, Bilgiç D, Okumuş H. Jinekolojik onkoloji hastalarının destekleyici bakım gereksinimleri ve etkileyen faktörler. *Jinekoloji-Obstetrik Neonatoloji Med J.* 2024;21(3):196-205.
- 17.Dursun Sİ, Vural B, Keskin B, Kaçar HK, Beyhan A, Kadioğlu H. Yetişkinlerde geleneksel/tamamlayıcı tıp tutumu ile sağlık okuryazarlığı ve sağlık algısı arasındaki ilişki. *Halk Sağlığı Hemşireliği Dergisi.* 2019;1(1):1-10.
- 18.Elif K, Ekerbiçer HÇ, Erkorkmaz Ü. Complementary, alternative, and conventional medicine attitude scale: Turkish validity reliability study. *Sakarya Tıp Dergisi.* 2018;8(4):726-736.
- 19.Swincow TDV, Campbell MJ. *Statistics at square one.* London: BMJ; 2002.
- 20.Mercadante S, Adile C, Ricci M, et al. The role of religiosity in symptom expression of advanced cancer patients. *Am J Hosp Palliat Care.* 2022;39(6):705-709.
- 21.Marcolin ML, Tarot A, Lombardo V, et al. The effects of foot reflexology on symptoms of discomfort in palliative care: A feasibility study. *BMC Complement Med Ther.* 2023;23(1):66.
- 22.Boateng R, Yawson AE, Adoma PO. Rural-urban and socio-demographic differentials in perceived health state among aging population in Ghana. *J Health Popul Nutr.* 2023;42(1):92.
- 23.Miwa J, Ichikawa R, Shibuya A, et al. Social determinants affecting the use of complementary and alternative medicine in Japan: An analysis using the conceptual framework of social determinants of health. *PLoS One.* 2018;13(7):e0200578.
- 24.Chung KC, Muthutantri A, Goldsmith GG, et al. Symptom impact and health-related quality of life (HRQoL) assessment by cancer stage: A narrative literature review. *BMC Cancer.* 2024;24(1):884.
- 25.Choi S, Karki Kunwor S, Im H, Choi D, Hwang J, Ahmed M, Han D. Traditional and complementary medicine use among cancer patients in Asian Countries: A Systematic Review and Meta-Analysis. *Cancers (Basel).* 2024 Sep 11;16(18):3130. doi: 10.3390/cancers16183130.