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The Relationship between the Use of Complementary and Alternative Medicine in Cardiovascular Diseases with Self-Care Ability and Life Quality

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Abstract

BACKGROUND/AIMS: Cardiovascular diseases are one of the leading global causes of morbidity and mortality. Lifestyle changes are critical for the prevention of cardiovascular diseases and improving self-care levels during treatment. This study aimed to explore the relationship between the use of complementary and alternative medicine (CAM) and the quality of life and self-care ability in individuals with cardiovascular disease.

MATERIALS AND METHODS: The study population in this cross-sectional and correlational research consisted of cardiovascular patients hospitalized in a public hospital between 1st April and 30th June 2018. One hundred and six patients agreeing to participate in this study were selected for sampling. A Patient Information Form, the Exercise of Self-Care Scale, and the World Health Organization Quality of Life Scale-Short Form were employed as the data collection tools.

RESULTS: The mean age of the patients in this study was 62.83±1.40 years, 59.4% were women, and 34.0% had coronary heart disease. The patients' mean self-care score was 101.18±22.31, and their mean quality of life score was 28.61±9.50. Age, education, diagnosis and duration of disease, constipation, and CAM use were found to affect their quality of life (p<0.005). A positive correlation was determined between CAM use and self-care ability.

CONCLUSION: The use of CAM in individuals with cardiovascular disease has a positive effect on self-care ability and enhances their quality of life.

Keywords: CAM, cardiovascular, quality of life, self-care

INTRODUCTION

Despite significant advances in modern medicine, complementary and alternative medicine (CAM) is still widely used. The general reported prevalence of CAM worldwide is 9.8-76.0%[1] and 46.2% in Turkey, which is higher than in many other countries.[2]

The use of CAM has recently gained more attention in cardiovascular diseases, the leading global cause of deaths among non-infectious chronic diseases.[3] The literature cites that individuals with cardiovascular disease often use CAM, particularly herbal products, and mind-body therapies.[4-6] It has been also reported that CAM is used for overcoming anxiety and losing weight in cardiovascular diseases.[6]

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In addition to the use of CAM, self-care, which is defined as the individuals' fulfilling their responsibility to protect and improve their health, is reported to be a significant parameter in achieving the positive management of cardiovascular diseases and compliance with treatment, and thus in raising the quality of life.[7,8] Self-care is affected by several factors and is a determinant of quality of life.

Nurses are now required to take part in widely used complementary therapies. Parallel to this, there have been changes in the roles and responsibilities of nurses, and nurses are expected to develop nursing practices regarding the use of complementary and alternative approaches, determine effective methods, and use complementary therapies for healthy/sick individuals in a reliable and appropriate manner.[9]

Recent studies have shown that studies on self-care strength and quality of life are most focused on cancer[10,11], while in chronic diseases, they indicate the relationship between CAM use and self-care related to diabetes, migraines, asthma, and self-care.[12,13] It is stated that cancer patients most benefit from methods such as vitamin and mineral mixtures, herbal therapy, and meditation[14], whereas people with chronic diseases use dietary supplements, mind-body practices, and herbal therapy as a complementary treatment method in addition to their medication.[15-17] It has been emphasized in the relevant literature that there are only a limited number of research results specific to cardiovascular diseases. Although it is noted that methods such as herbal therapy, supplemental food intake, etc. are being applied, there exists no study on their effects on self-care and quality of life.

The purpose of this study was to determine the effects of CAM use in cardiovascular diseases on the self-care levels and the quality of life of individuals.

Research Questions

1. What is the rate of use of CAM in cardiovascular diseases?

2. What is the relationship between the patients' use of CAM and their self-care levels?

3. What is the relationship between the patients' use of CAM and their quality of life?

4. Is there a significant difference in the self-care levels and quality of life in individuals with cardiovascular disease?

MATERIALS AND METHODS

Type of Research

The research was designed as a descriptive, cross-sectional and correlational study.

Research Population and Sampling

The research population consisted of individuals hospitalized in the internal diseases and cardiology clinics of a public hospital in Turkey between April and June, 2018. No sampling was performed; the entire population was included in the study. All voluntary patients (n=189) who were conscious and over 18 years old and who had at least one cardiovascular disease were included in this study at the specified clinics at the time of the study. This study was completed with 106 patients who filled out the questionnaires.

Data Collection Tools and Data Collection Process

Data collection tools were the Patient Introduction Form, The World Health Organization Quality of Life Scale-Short Form, and the Exercise of Self-Care Scale. The data were collected by the researchers from hospitalized patients using a face-to-face interview technique at the clinic.

Patient Information Form

Developed by the researchers, this form consists of two parts. The first part includes questions investigating the patients' socio-demographic characteristics (sex, age, marital status, education, and smoking status), and the second part investigates CAM use and the methods employed.[1,4,7-11]

The World Health Organization Quality of Life Scale-short Form (WHOQOL-BREF)

The reliability and validity of the Turkish-language version of this scale, developed by the WHO Quality of Life Group (1996) to assess how individuals perceive their own quality of life, were investigated by Fidaner et al.[18] The Cronbach's alpha of the scale was 0.85. It consists of four domains (physical, psychological, social relationships, and environmental) and 26 questions. When the Turkish version is employed (a 27th question is a national one). The environmental domain score is described as environment-TR. Scores range between four (4) and twenty (20), with higher scores indicating a higher quality of life. The scale's Cronbach alpha value in this study was 0.814.

The Exercise of Self-Care Scale

The Exercise of Self-Care Scale (ESCA) is a five-point Likert-type scale used to evaluate an individual's performance of self-care activities. The scale was developed by Kearney and Fleischer in 1979[19], the Cronbach's alpha of this scale was 0.92 and its Turkish-language reliability and validity were investigated by Nahcivan.[20] ESCA consists of 35 items, each scored between zero (0) and four (4). Eight items (3, 6, 9, 13, 19, 22, 26, and 31) are reverse scored. The total possible scores range between 35 and 140 with higher scores indicating a higher self-care ability. The scale's Cronbach alpha value in this study was found to be 0.916.

Ethics

Approval for this research was granted by the Gümüşhane University Non-Interventional Clinical Research Ethical Committee (approval number: 2018/3). Written permission was obtained from the institution where the study was performed, and informed consent was received from the patients in line with the principle of voluntary participation. This study was conducted in accordance with the principles of the Declaration of Helsinki.

Statistical Analysis

For the statistical analysis of the data, the statistical package for social sciences (SPSS) 23 program was used. Continuous variables are expressed as median values (25th-75th percentiles) and categorical variables as numbers (percentages). Non-normally distributed variables were compared between the groups using the Mann-Whitney U test, the Kruskal-Wallis test, and Spearman's correlation analysis.

RESULTS

The analysis of the patients' demographic characteristics revealed that the mean age of participants was 62.83±1.40 years (min: 60, max: 96),

59.4% were women, 83% were married, 46.2% were literate, 49.1% were housewives, and 73.6% smoked. Thirty-four percent of the participants had coronary heart disease, 68.8% had had chronic diseases for more than 10 years, and 32.1% experienced constipation. The rate of CAM use among individuals with cardiovascular disease was 38.7% (Table 1).

The Exercise of Self-Care Scale and Quality of Life scores according to various socio-demographic characteristics are shown in Table 2. The comparison of the mean quality of life scores in terms of the patients' education levels revealed a significantly higher mean score among 'literate' patients (p=0.000). A significant difference was observed in the mean self-care and quality of life scores, with hypertensive patients recording significantly higher self-care (p=0.008) and quality of life scale (p=0.001) scores than those patients with other diseases. The mean quality of life score of those patients who reported experiencing constipation was significantly higher than that of those patients without constipation (p=0.005). Patients using CAM recorded a significantly higher mean quality of life score than those patients not using CAM (p=0.005). No statistically significant difference was determined between the patients' CAM use and Exercise of Self-Care Scale scores (p>0.05). A significant relationship was found between age and the quality of life mean scores, with quality of life rising with age (p=0.000). Quality of life scores also increased in line with disease duration (p=0.001) (Table 2).

The patients' mean self-care and quality of life scores were 101.18±22.31 and 28.61±9.50, respectively. A significant positive weak correlation was observed between CAM use and the patients' self-care (r=0.249 p=0.014) and quality of life (r=0.213 p=0.021) (Table 3).

DISCUSSION

Individual self-care is important in the management of cardiovascular diseases, and CAM use, which may have an impact on the quality of life, is becoming more widespread day by day. The purpose of the present study was to determine the relationship between CAM use and self-care and quality of life among individuals with cardiovascular disease.

Scientific advances have led to an improved understanding of the pathophysiology of numerous diseases, thus leading to evidence-based applications. However, CAM continues to be widely used, both by itself and in addition to modern treatment. A moderate level of CAM use (38.7%) was determined among cardiac patients in the present study, and its use was higher among men than women. In terms of CAM use among individuals with heart disease in the literature, one in three patients with myocardial infarction were reported to use CAM,[21] while Bahall reported that 56.2% of their patients used CAM,[22] Greenfield et al.[23] reported a rate of 31.7%, and Krasuski et al.[24] a rate of 54%, which shows that CAM use is widespread across the world.

Most patients (61.3%) in this study did not discontinue the treatment recommended by physicians, which reveals a high confidence in modern medicine and also that CAM is not fully trusted.[25] In addition, the cardiac conditions shown in Table 1 may require the use of anticoagulants such as aspirin, heparin, warfarin, and clopidogrel which can react with several herbal products widely employed by patients. However, the likelihood of plant-plant and plant-drug interactions and herbal toxicity may be overlooked by patients who regard natural products as "safe".[26]

No statistically significant difference was found between the patients' education levels and self-care. Several previous studies have reported that patients' education levels and their receiving education about

Table 1. Distribution of participants' socio-demographic characteristics (n=106)		
Descriptive information	n	%
Age (mean ± SD)	(62.83±1.40) (min: 60, max: 96)	
Sex		
Female	63	59.4
Male	43	40.6
Marital status		
Married	88	83
Single	18	27
Education		
Literate only	49	46.2
Elementary school	35	33.0
Middle school	9	8.3
High school	8	7.5
University	5	4.5
Occupation		
Retired	27	25.5
Clerical	4	3.8
Self-employed	19	17.9
Housewife	52	49.1
Not working	2	1.9
Smoking status		
Smoker	7	6.6
Non-smoker	78	73.6
Quit smoking	21	19.8
Type of cardiovascular disease		
Hypertension	27	25.5
Coronary artery disease	36	34.0
Chronic heart failure	11	10.4
Other**	32	30.1
Duration of disease		
10 years or less	73	68.8
11-20 years	13	12.4
21-30 years	17	16.0
30 years or more	3	2.8
Constipation		
Yes	34	32.1
No	72	67.9
CAM use		
Yes	41	38.7
No	65	61.3
Continuing to use treatment recommended by a physician		
Yes	65	61.3
No	41	38.7
SD: standard deviation, CAM: complementary and alternative medicine, min.: minimum, max.: maximum.		

Table 2. Patients mean Exercise of Self-Care and Quality of Life Scale scores by various socio-demographic characteristics (n=106)

Socio-demographic characteristic	Exercise of self-care scale	Quality of life scale
Education	Median (25th-75th percentile)	Median (25th-75th percentile)
	93 (80.5-113)	30 (24-38)
Literate only[a]	115 (93-126)	28 (27-34) a>b=c=d=e
Elementary school[b]	103 (92-120)	24 (21-29)
Middle school[c]	103 (92.5-117.5)	24.5 (21-28.2)
High school[d]	99 (92.5-123)	20.5 (19-24.2)
University	p=2,237[a]	**p=0.001**
Diagnosis	122 (89-133)	31 (28-37)
Hypertension[a]	100 (89-113)	25 (22-29.7)
Coronary heart disease[b]	83 (67.5-91.2)	29 (25-38) a>b=c=d
Chronic heart failure[c]	95 (90-103)	23 (21-27.5)
Other [d]	**p=0.008**	**p=0.001**
Constipation	97 (89-113)	25 (21-29.7)
Yes	99 (89-121)	29 (23.7-40.5)
No	**p=0.766**	**p=0.028**
CAM use	98 (87.0-121.0)	29 (23.0-32.2)
Yes	92 (90.7-124.0)	25 (21.0-28.0)
No	**p=0.035**	**p=0.005**
Age	r=-0.074	r=0.521
	p=0.468	**p=0.001**
Duration of disease	r=0.164	r=0.353
	p=0.130	**p=0.001**
CAM: complementary and alternative medicine.		

Table 3. Patients' CAM use, mean self-care and quality of life scores, and relationships between them

			CAM use	Quality of life	Self-care level
Variable	Mean ± SD	Median (min.-max)	r	r	r
(1) CAM use	-	-	1		
(2) Quality of life	28.61±9.50	26.00±9.50 (17-67)	0.213[*]	1	
(3) Self-care level	101.18±22.31	98.0±22.31 (46-139)	0.249[*]	-0.013	1
SD: standard deviation, r: Pearson correlation coefficient, [*]: p<0.05, min.: minimum, max.: maximum, CAM: complementary and alternative medicine.					

their diseases affects their learning needs and improves their self-care behaviors.[27-29] A significant correlation was observed in the present study between the patients' education levels and their quality of life scores. This was found to derive from the literate group. While some studies have reported that a low level of education is associated with a poorer quality of life[30], other studies have reported that those patients who have received higher education have low quality of life values.[31,32] These discrepancies may be attributed to differences in sampling and age groups, and to different tools being used to measure quality of life. In addition, individuals with high levels of education may also have higher self-expectations but may have reported lower quality of life since they are unable to meet those expectations because of their diseases.

It is stated in the literature that chronic disease is one of the strongest determinants of health-related quality of life. Annaç[33] showed that the quality of life of cardiovascular patients is generally low. Snarska et al.[34] argue that patients with hypertension have determined their quality of life at a good or medium level in the physical, psychological, social, and environmental domains. Cardiovascular diseases are more exposed to physical and psychological symptoms and have inadequate coping mechanisms.

Although it is not a disease, constipation is an important societal health problem interpreted differently by individuals.[35] No statistically significant relationship was observed in the present study between constipation status and self-care levels. However, a significant relationship was determined between the patients' experiencing constipation and their quality of life, with those patients experiencing constipation have a significantly poorer quality of life. Previous studies have also reported that constipation adversely impacts individuals' quality of life.[36-38]

No significant relationship was observed between the patients' ages and their self-care levels, which contradicts with the results of previous studies investigating the relationship between age and self-care. Some studies report that self-care improves with age[39,40], and others argue that it decreases with age[26], still others report no significant relationship as in the present study.[29,30] However, a positive correlation was observed in this study between age and quality of life scores. Hickey et al.[41] indicated that elderly individuals scored lower on their quality-of-life scale physical domain, but better on the mental domain and that the elderly exhibited better satisfaction and coping skills. In their systematic review, Baert et al.[42] reported a positive correlation between age and

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quality of life. Various studies have shown that although their physical health worsens, individuals' quality of life can remain high on condition that their scores on other domains and enjoyment also remain high.[42,43] It may be concluded that quality of life increases with increased life expectancy, on condition that this is accompanied by a reasonable level of mental and physical health and increasing socialization.

Patients endeavor to ameliorate their symptoms, improve their quality of life and self-care levels, and potentially treat their diseases. Greene reported that patients experienced greater strength, increased hope, and psychological support following CAM use.[34] Votova and Wister[44] showed that self-care attitudes and spirituality were important predictors of CAM use. Kristoffersen et al.[45] showed that people use CAM in response to a perceived risk of developing CHD, and to prevent disease and to maintain their health. Findings concerning CAM use for the enhancement of quality of life in cardiovascular diseases have generally been positive.[21,44-48] Some degree of improvement in the quality of life has been reported six months after hospitalization in patients admitted due to acute coronary syndrome.[19] Consistent with the previous literature, patients using CAM exhibited greater self-care and a better quality of life.

In this study, the use of CAM was found to increase the quality of life and the self-care ability of the patients. In the literature, some studies have shown that CAM is widely used to reduce the adverse effects of many diseases such as cardiovascular diseases and to increase the quality of life.[49-51] The importance of CAM use in cardiovascular diseases, especially in individuals at risk, has been reported.[52] In another study on the use of CAM for the prevention and treatment of cardiovascular diseases, including hypertension, hyperlipidemia, coronary artery disease, heart failure, and arrhythmias, it was reported that the use of CAM significantly improves the quality of life.[53] At the same time, some sources emphasize that when the appropriate CAM method is applied, tolerance to the disease, quality of life, and self-care ability increase.[54-56] Our findings are consistent with the literature.

Study Limitations

The main identified limitation of this study is that it was carried out with hospitalized patients with a diagnosis of cardiovascular disease in internal medicine and cardiology services between April and June, 2018 in a public hospital; therefore, it cannot be generalized to all patients diagnosed with cardiovascular disease.

CONCLUSION

Patients with cardiac problems such as chronic heart failure, angina, and hypertension are reported to use CAM. Since existing evidence-based studies regarding CAM use have not yet produced definite conclusions, further scientific research on this subject is required. In addition to prescription cardiovascular medications, health care professionals should therefore educate patients about the possible dangers of other drugs, vitamins, and herbal supplements which they may use without the knowledge of a physician or a prescription.

It is recommended that healthcare professionals have knowledge about the use and benefits of CAM. Also, that the CAM methods used in diseases are questioned in terms of medical history of the patients so that these methods are determined to enhance the self-care ability and quality of life in patients with different diagnoses.

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