

Original Article

## The Use of Complementary and Alternative Medicine in Individuals with Heart Failure

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### Abstract

**Background:** Patients with heart failure commonly use complementary and alternative medicine approaches. The use of complementary and alternative medicine may have an adverse effect. It is important for health professionals to know whether patients are using this approaches.

**Objectives:** The purpose of this study was to examine the use of complementary and alternative medicine in individuals with heart failure.

**Method:** Carried out as descriptive research, the study sample consisted of 104 consenting patients who were being monitored in the Cardiology Department and polyclinic of a university hospital after a diagnosis of heart failure at least three months prior to the study. Data were collected with a questionnaire.

**Results:** It was found that 26.9% of the individuals participating in the study had used complementary and alternative medicine at least once or more in addition to their medical treatment. It was observed that 85.7% had received herbal therapy, 21.4% had taken supplements. No significant relationship could be detected between the patients' sociodemographic and illness-related characteristics and the use of complementary and alternative medicine. It was seen that more than half of the individuals using complementary and alternative medicine found the techniques to be beneficial but did not inform healthcare professionals about their use of complementary and alternative medicine methods.

**Conclusions:** The use of methods with unknown consequences in patients with heart failure may have an adverse effect on the treatment process. Healthcare professionals must inform patients about complementary and alternative medicine techniques and inquire about whether or not they are using them.

**Keywords:** Complementary and alternative medicines, Heart failure, Herbs, Nursing

### Introduction

Complementary and alternative medicine are among the options individuals with cardiovascular problems consider in seeking to protect and maintain their health (Bin & Kiat 2011, Bond & Latta 2010). Systematic reviews have reported that the rate of CAM usage among heart patients is between 7%-82% (Grant et al. 2012, Bin & Kiat 2011). Studies in Turkey reveal CAM usage rates of 16% (Ipek et al. 2013) and 35.3% (Erdogan, Oguz

and Erol 2012). Studies on the use of CAM among individuals suffering from heart failure are few and the specific reasons CAM is used in cases of heart failure have not been explored (Albert et al. 2009, Dal Corso et al. 2007, Zick, Blume and Aaronson 2005, Martinez-Selles et al. 2004). Individuals with heart failure experience symptoms such as shortness of breath and edema that can adversely affect their daily life activities. Heart failure patients have difficulties in adjusting to lifestyle changes and

treatment that will help them avoid such symptoms (Dickson 2007) and therefore gravitate toward the use of complementary and alternative medicines (Bond & Latta 2010, Metin et al. 2018).

Zick, Blume and Aaronson (2005) have reported that 32.5% of individuals with heart failure resort to complementary and alternative medicine and that the conditions that make people resort to this type of therapy are cardiac diseases, anxiety and stress, weight loss, arthritis and other chronic diseases. Studies on the use of CAM among individuals with heart failure have demonstrated that patients tend to use herbal therapies and vitamin, mineral and nutritional supplements (Albert et al. 2009, Dal Corso, et al. 2007, Zick, Blume and Aaronson 2005, Martinez-Selles et al. 2004).

It has been noted that inpatients as well as outpatients ask questions about complementary and alternative medicines, that some express their desire to make use of these therapies, and that in some cases, being unsure of the justification for this treatment, patients do in fact indulge in these therapies but intentionally neglect to tell their health professionals about their decision. The purpose of this study in this context was to examine the use of complementary and alternative medicine in individuals with heart failure. Determining the extent of the use of complementary and alternative treatment by individuals with heart failure will shed light on treatment and care processes, provide the opportunity to detect inappropriate practices and plan suitable interventions, and raise the awareness of healthcare professionals who provide care to these individuals.

### Materials and methods

**Setting and sampling:** This is a descriptive and cross-sectional study conducted at the heart failure outpatient clinic and cardiology clinic of a university hospital in Turkey. A total of 104 patients diagnosed with heart failure at least 3 months prior to the study who were 18 years of age and older and consented to participate were included in the study.

**Data collection:** A questionnaire was drawn up for data collection on the basis of examples in the literature (Erdogan, Oguz and Erol 2012, Koc, et al., 2012, Kucukguclu et al. 2012, Dedeli & Karadakovan 2011, Bond & Latta 2010, Barraco, et al. 2005, Zick, Blume and Aaronson 2005). The data

collection questionnaire contained questions on the characteristics of individuals and the illness as well as on the use of complementary and alternative therapies.

The study data were collected when the patients were stable, at a time that they were physically comfortable enough (not suffering from shortness of breath, pain or other problems) and willing to participate in the interview. Data were collected via the face-to-face interview technique.

**Data analysis:** Data were evaluated electronically using the SPSS (Statistical Package for Social Sciences for Windows) 15.00 program. The status of the participating patients with respect to the use of CAM was noted in line with their own declaration in the form of "uses - does not use" and expressed in numbers and percentages. The "t-test" and the "chi-square" test were employed to determine the factors that might affect the use of CAM. The level of significance was accepted as  $p < 0.05$ .

**Ethical approval:** Prior to the study, ethics committee approval for the research was received from the Dokuz Eylul University Non-interventional Studies Ethics Committee. Written permission for the implementation of the study was obtained from Dokuz Eylul University Hospital. The written consent of the individuals agreeing to participate in the study was obtained after they were informed of its purpose.

### Results

The mean age of the individuals included in the study was  $63.56 \pm 12.45$  years; most of the participants were male, elementary school graduates, married, living with their spouses and unemployed. The distribution of the individual characteristics of the participants and the features of their illness can be seen in Table 1. Of the individuals participating in the study, 26.9% said they made use of CAM. No significant relationship could be detected between the patients' sociodemographic and illness-related characteristics and the use of CAM (Table 1). The methods of CAM that the participants used were herbal therapies (66%), supplements (22%) and prayer (22%) (Fig. 1). The herbal remedies they used were garlic (n:4), Himalayan salt (n:2), black cumin oil (3), dark raisin seeds (n:2), lavandulae flos (n:7),

hawthorn fruit/tea (n:2), flaxseed (n:1), cherry stems (n:1), pomegranate juice (n:2). The supplements used were L-carnitine chewing tablets (n:1), coenzyme-Q10 (n:1), Omega 3 (n:3) and Gingseng (n:1).

The individuals with heart failure said that they made use of CAM techniques in order to win back their heart health, get more comfortable/feel better, strengthen their heart, clean out their blood, open up their blood vessels and also to protect themselves

against symptoms of shortness of breath, edema, chest pain, fatigue/weakness and cough (Table 2).

More than half of the individuals using CAM found CAM techniques to be beneficial, said they could recommend CAM therapies to others, but remarked that they had not informed healthcare professionals about their use of CAM. More than half of those using CAM stated that they had considered breaking off their treatment while they were on CAM and about 30% said they had actually stopped treatment (Fig. 2).

**Table 1. Distribution of Complementary and Alternative Medicine Use of the Participants by Individual and Illness Characteristics**

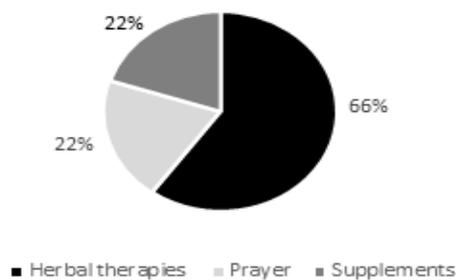
Characteristics	CAM Users	Nonusers	Total	p
	(n=28)	(n=76)	(n=104)	
	X(SD)	X(SD)	X(SD)	
<b>Age</b>	62.46 (13.42)	64.11 (11.96)	63.56 (12.45)	0.546
<b>EF%</b>	29.82 (8.10)	31.48 (8.00)	31.03 (8.02)	0.351
<b>Diagnosis duration of HF (month)</b>	46.75 (44.98)	39.90 (38.10)	41.75 (39.96)	0.441
	n (%)	n (%)	n (%)	p
<b>Gender</b>				
Female	9 (8.7)	19 (18.3)	28 (26.9)	0.466
Male	19 (18.3)	57 (54.8)	76 (73.1)	
<b>Education status</b>				
Primary school	15 (14.4)	46 (44.2)	61 (58.7)	0.714
Secondary school	8 (7.7)	16 (15.4)	24 (23.1)	
High education	5 (4.8)	14 (13.5)	19 (18.3)	
<b>Martial status</b>				
Married	24 (23.1)	66 (63.5)	90 (86.5)	1.000
Single	4 (3.8)	10 (9.6)	14 (13.5)	
<b>Live together</b>				
Single	3 (2.9)	8 (7.7)	11 (10.6)	0.996
With spouse	24 (23.1)	65 (62.5)	89 (85.6)	
With children	1 (1.0)	3 (2.9)	4 (3.8)	
<b>Income Level</b>				
Income > expense	4 (3.8)	9 (8.7)	13 (12.5)	0.076
Income = expense	18 (17.3)	62 (59.6)	80 (76.9)	
Income < expense	6 (5.8)	5 (4.8)	11 (10.6)	
<b>Employment status</b>				
Employed	5 (4.8)	11 (10.6)	16 (15.4)	0.761
Unemployed	23 (22.1)	65 (62.5)	88 (84.6)	
<b>NYHA stage</b>				
II	19 (18.3)	59 (56.7)	78 (75.0)	0.318
III	9 (8.7)	17 (16.3)	26 (25.0)	

Hospitalizations (in last one year)				
No	12 (11.5)	36 (34.6)	48 (46.2)	0.243
One time	10 (9.6)	33 (31.7)	43 (41.3)	
Two times and over	6 (5.8)	7 (6.7)	13 (12.5)	
<b>Other chronic diseases</b>				
Yes	23 (22.1)	48 (46.2)	71 (68.3)	0.065
No	5 (4.8)	28 (26.9)	33 (31.7)	

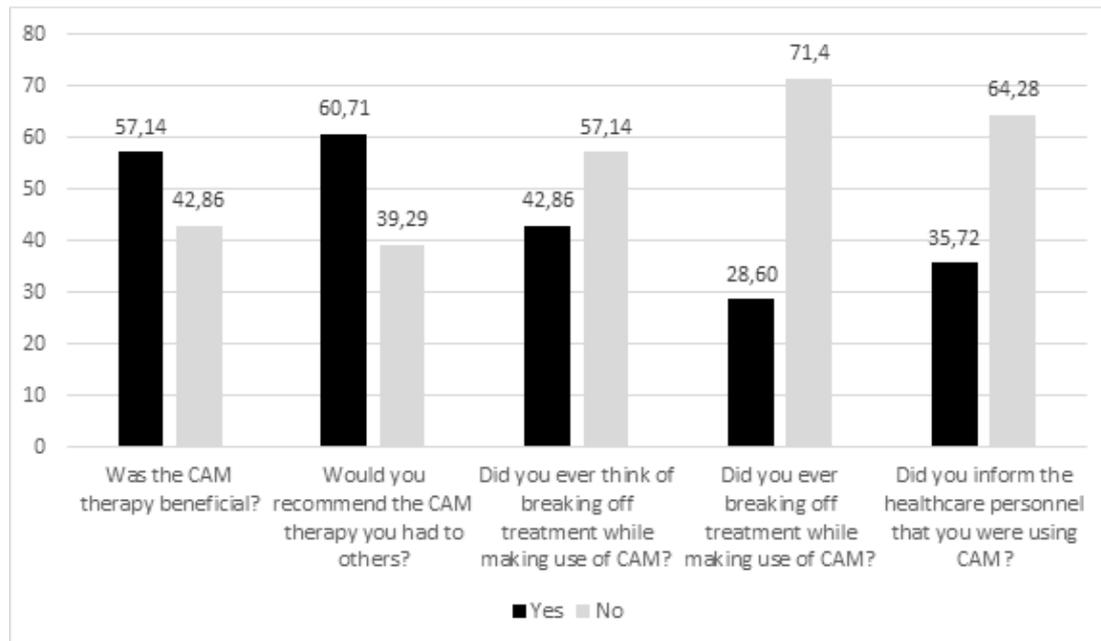
**Table 2. Reasons Individuals with Heart Failure Use Complementary and Alternative Medicine**

	n (%)
Win back their heart health	6 (21.42)
Get more comfortable/feel better	2 (7.14)
Strengthen the heart	13 (46.42)
Clean out their blood	4 (14.28)
Open up blood vessels	7 (25.00)
<b>Protect against symptoms</b>	
Shortness of breath	10 (35.71)
Edema	9 (32.14)
Chest pain	7 (25.00)
Fatigue/weakness	3 (10.71)
Cough	1 (3.57)

\*More than one symptom/selection was marked



**Fig 1:**Complementary and Alternative Medicine techniques used by the participants.



**Fig 2. Views of the patients about their use of of Complementary and Alternative Medicine**

## Discussion

Of the individuals participating in the study, 26.9% said they made use of CAM. Other similar studies conducted with patients with heart failure have reported their findings: Zick, Blume and Aaronson (2005) said that 32.5% of patients reached out to CAM; Albert et al. (2009) said that 11.5% resorted to herbal therapy; Martinez-Selles et al. (2004) said that 12% used homeopathy and alternative medicines; Dal Corso et al. (2007) stated that 5.8% took alternative medicines, 21.3% used herbal therapy and 20.9% took supplements (vitamins, calcium and the like). No significant relationship could be detected between the patients' sociodemographic and illness-related characteristics and the use of CAM. Other studies with patients with heart failure have similarly failed to find a statistically significant relationship between the use of CAM methods and sociodemographic or illness-related characteristics (Albert et al. 2009, Dal Corso et al. 2007, Zick, Blume and Aaronson 2005). It might be suggested that this might be explained not by demographic characteristics but by the perceptions and beliefs of individuals about the use of CAM techniques. In other studies conducted with patients with heart failure, it has been found that the

use of CAM is more common in the middle-age group and in individuals with higher levels of education and income (İpek et al. 2013, Frass et al. 2012, Barnes, Bloom and Nahin 2008, Yeh, Davis and Phillips 2006, Martinez-Selles et al. 2004).

The methods of CAM that the participants used were herbal therapies (66%), supplements (22%) and prayer (22%). Differing from other studies, there were no patients who depended upon body-mind connecting activities such as yoga (Metin et al. 2018, Kwekkeboom et al. 2016, Cramer et al. 2015). This may be because patients in Turkey do not know about such methods or due to the fact that they are not widely used. Studies on the use of CAM among individuals with heart failure have demonstrated that patients tend to use herbal therapies and vitamin, mineral and nutritional supplements (Pinar et al. 2017, Albert et al. 2009, Dal Corso et al. 2007, Zick, Blume and Aaronson 2005, Martinez-Selles et al. 2004). In their systematic review on the use of CAM, Grant et al. (2012) have reported that the percentage of patients with cardiovascular disease who engage in herbal therapy is in the range of 2%-46%. In Turkey, patients are easily able to access herbal therapy through the mediation of medicinal herb vendors who provide the materials at low cost.

This is why the use of herbal therapies is so widespread in Turkey. Garlic is commonly used for hyperlipidemia, heart disease and hypertension. The reason behind this practice is that garlic is popularly known for its antihypertensive and antiaggregant effects and is also a staple of Turkish cuisine. On the other hand, evidence of the effect of garlic intake on preventing cardiovascular morbidity and mortality is insufficient (Stabler et al. 2012). It has been asserted that hawthorn therapy has a significant impact on achieving symptomatic control and physiological recovery in patients with heart failure. The report is that hawthorn therapy causes increased tolerance to exercising, reduces cardiac oxygen consumption and diminishes shortness of breath and respiration volume (Guo, Pittler and Ernst 2008). It is stated that Omega 3 polyunsaturated fatty acids (fish oil) diminish triglyceride levels, prevent dysrhythmia, reduce platelet aggregation and decrease blood pressure levels, thus providing protection against major cardiovascular events (Rizos et al. 2012). However, studies have shown that polyunsaturated omega 3 fatty acid supplements do not have an impact on reducing mortality or cardiac-related deaths, spontaneous deaths or myocardial infarction (Rizos et al. 2012). Since there is generally not enough evidence demonstrating the effectiveness of herbal and other supplements and also because the use of such products may be risky, it is important to establish whether or not a patient is receiving such therapy. A newly manufactured product may be quickly introduced to the market without sufficient inspection and control, resulting in possible adverse effects when the supplements are ingested (Tachjian, Maria and Jahangir 2010). Garlic may cause an interaction with aspirin, clopidogrel or warfarin and produce bleeding. Hawthorn increases the effect of digoxin, and enhances the coronary vasodilating effect of calcium canal blockers and nitrates (Tachjian, Maria and Jahangir 2010).

The individuals with heart failure said that they made use of CAM techniques in order to win back their heart health, get more comfortable/feel better, strengthen their heart, clean out their blood, open up their blood vessels and also to protect themselves against symptoms of shortness of breath, edema, chest pain, fatigue/weakness and cough. Studies show that the rationales for using CAM among individuals with heart failure include preventing the side effects of medical treatment (Shafiq et al. 2003)

and increasing wellness and the level of health by taking vitamins and herbal therapies (Albert et al. 2009); 82% of this population takes supplements to protect their heart health (Zick, Blume and Aaronson 2005). Patients find it difficult to control symptoms and therefore look for positive results through different interventions when faced with recurrent hospital admission.

In our study, we found that more than half of the individuals making use of CAM thought that CAM techniques were beneficial. Yeh, Davis and Phillips (2006) reported in their study that 80% of patients using herbal therapies because of cardiac causes found these techniques useful. The majority of the patients stated that they could recommend CAM therapies to others and that they did not inform their healthcare professionals about the methods of CAM they were using. Grant et al. (2012) have reported in their systematic review about the use of CAM in individuals with cardiovascular disease that the percentage of healthcare personnel with an awareness of CAM usage is lowest in Turkey (8%). Other studies have found personnel awareness in this context to be in the range of 39%-65% (Krasuski, Michaelis and Eckart 2006, Yeh, Davis and Phillips 2006, Barraco et al. 2005, Chagan et al. 2005). The reasons for not informing healthcare personnel about the use of CAM have been cited as the belief that using CAM would not be approved of (Blackmer & Jefromova 2002) the failure of healthcare personnel to inquire about the use of CAM (İpek et al. 2013, Barraco et al. 2005, Robinson & McGrail 2004), and the tendency of patients to regard alternative products as non-medical and therefore natural and harmless (İpek et al. 2013, Krasuski, Michaelis and Eckart 2006, Barraco et al. 2005). Because patients do not perceive these products as medicine, they are unable to engage in adequate conversation about possible side effects and interactions with drugs. This increases the potential of experiencing the effects of drug interactions (Miller, Liebowitz and Newby 2004). The absence of a standardized mechanism of control, the easy accessibility of products, the increase in the audience interested in these methods, which is spurred on by the visual and printed media, are factors responsible for the steady spread of the habit of resorting to these alternatives (Krasuski, Michaelis and Eckart 2006).

More than half of those using CAM stated that they had considered breaking off their treatment while they were on CAM and about 30% said they had actually stopped treatment. In their research, Dal Corso et al. (2007) reported that patients with heart failure who were using herbal therapies reduced or even skipped their treatment doses. Studies have shown that patients making use of CAM had a low awareness of the effects and adverse effects of alternative products and their interaction with other drugs (Dal Corso et al. 2007, Yilmaz et al., 2007). It is difficult to establish the exact effectiveness of CAM methods. The effects of some methods have not been fully understood. The placebo effect of the methods used must also be considered. It is not possible to determine the contribution of alternative methods to recovery when they are used together with medical treatment. The fact that the studies on the subject in the literature are not prospective, randomized controlled and placebo controlled makes the quality of the methodology and the study difficult to determine (Rabito & Kaye 2013).

Patients with heart failure commonly use complementary and alternative medicine approaches. The use of complementary and alternative medicine may have an adverse effect and unknown consequences. Healthcare professionals must inform patients about complementary and alternative medicine techniques (Pinar et al. 2017, Uysal 2016).

**Conclusion and suggestions:** This study examined the use of CAM among patients with heart failure and the specific reasons for the preference, finding that the extent of the use of CAM is not to be underestimated. There is an inadequacy of data on the safety and effectiveness of using herbal products, multivitamins and other nutritional supplements. Due to possible drug interactions and adverse effects, nurses should be knowledgeable about these alternative therapies and should inquire about their use when taking patient histories, subsequently informing and educating their patients about the subject. In addition, randomized controlled studies should be conducted on the effectiveness of these methods.

**Acknowledgment:** The authors would like to thank all the patients who participated in this study.

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