Assessment of the use of complementary and alternative medicine with respect to illness perception among individuals with chronic diseases

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Abstract

This study aims to assess the use of complementary and alternative medicine with respect to illness perception, among individuals with chronic diseases. The sample of this descriptive and cross-sectional study comprises 350 patients with chronic diseases, who have applied to a governmental hospital in Giresun province of Turkey. Questionnaire form and illness perception questionnaires have been used for data collection. During the analysis of the data; frequency, percentage, t test and Kruskal Wallis variance analysis have been utilized. The mean age of the patients is 60±16.09. 47.1% of the patients declared that they use complementary and alternative medicine methods. It is found that the patients who use complementary and alternative medicine have significantly higher illness duration, personal control, and treatment control subscale scores (P<0.05) where these are the subscales of the illness perception. According to the results of the study; knowing that the illness is of long duration, the will to have personal control over health and to control this long treatment period; complementary and alternative medicine methods are used by the patients.

Keywords: Complementary and alternative medicine, illness perception, health perception, chronic disease

Introduction

Chronic diseases constitute an increasingly widespread public health problem which decreases individuals' quality of life, may lead to lifelong disabilities and even to death [1].

According to World Health Organization (WHO), 68% of all the deaths in 2012 were due to chronic diseases. The main types of these diseases are cardiovascular diseases, cancers, diabetes mellitus, and chronic obstructive pulmonary disease (COPD) [2].

According to the data by Turkish Statistical Institution, 40.4% of the deaths in Turkey in 2014 were due to circulatory system diseases, while the causes of 20.7% of the deaths were good and malignant tumors [3]. The study on chronic diseases and risk factors in Turkey reported that the prevalence of hypertension is 24%, the prevalence of diabetes is 11%, and the prevalence of COPD is 5.3% [4].

Chronic diseases cause important changes in the lives of the individuals. These changes include physical imbalances, psychological problems, the change of the usual lifestyle, ache/pain and discomfort, potential loss of

role and status, and loss of financial stability. The individuals may perceive these changes as surmountable or insurmountable and the stress they experience may be overwhelming [1].

For these diseases, which are long-term and generally making gradual progress, it was found that the perception of the disease affected disease management, care, and treatment [5].

Illness perception includes the beliefs of individuals about the symptoms, duration of the disease, and the outcomes of the existing treatment and care [6]. Additionally, the beliefs of the individuals about the existing treatments, such as "necessary" or "harmful", can be explained by illness perception [7].

In Leventhal's self-regulation model, patients' perception of their diseases led their understanding of their own situation and their strategies for coping with it, such as using complementary and alternative medicine (CAM) or using medical treatment [6].

Due to the circumstances such as the necessity of lifelong medical treatment, diseases with no cures, and being in the terminal period of a disease, individuals seek choices other than medical treatment [8]. For this purpose, patients nowadays use CAM methods extensively.

WHO defines CAM as the use of plants, animals, mineral-based medicines, spiritual therapies, beliefs, knowledge,

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and approaches for the protection of health, diagnosis, treatment and, maintaining well-being [9].

The CAM practices commonly used all over the world have their disadvantages in addition to their advantages [10]. Related substances are produced in nonstandard ways in several countries. Therefore, their consumers face the quality and security related risks of the CAM methods [10]. The use of wrong plant species, toxic effects, tricks, and CAM methods' taking the place of medical treatment are some of these risks [10].

This study aims to determine the levels of CAM use with respect to the illness perception of the individuals with chronic diseases.

Materyal and Methods

This cross-sectional study is conducted in a governmental hospital at the center of Giresun province of Turkey between June and July in 2015. The required permissions are obtained from the management of this organization.

The patients who have been diagnosed with chronic diseases by the physicians and who regularly take medications, based on own statements of the patients, are included in the study. During the determination of the universe, the most common chronic diseases in the world and in our country such as hypertension, diabetes mellitus, and cardiovascular diseases are considered. Among the patients included in the study, some of them have stated that they have more than one chronic disease. The universe of the study comprises 4000 patients conforming to the specified characteristics during the time interval of the study. By taking the margin of error as 0.05, the sample size is determined as 350.

The necessary information about the study is given to the participants by the researchers and those patients having no communication problems and who agreed to participate in the study are included in the study. The study conforms to the principles of Helsinki Declaration. The preliminary application of the study was performed on 30 patients.

During data collection, a questionnaire form prepared by the researchers and the revised illness perception questionnaire (IPQ-R) [11] are utilized.

The questionnaire form comprises 22 questions where 7 questions are on socio-demographic characteristics, 4 questions are related to health-related behaviors, 6 of them are related to the chronic disease, 3 questions are on medications, and 2 of them are non-pharmacological treatment.

The weights and heights of the patients are determined based on their self-statements and Body Mass Index (BMI) values are calculated. The BMI classification of WHO [12] is used during the assessment of the BMI values.

According to this classification, BMI values less than 18.5 are considered *thin*, the values within 18.5-24.9 are considered *normal-weight*, those within 25.0-29.9 are *pre-obese*, and finally, values greater than and equal to 30.0 are considered *obese* [12].

The illness perception scale was first developed by Weinmann et al. in 1996 [13]. It was revised by Moss-Morris et al. in 2012 [11]. This revised version is used in the current study. Kocaman et al. performed its validity and reliability study for Turkish [14].

The illness perception scale comprises three dimensions: illness type, the opinions of the patients about the illness and the causes of the illness [11].

Illness Type Dimension: This dimension inquires whether 14 frequently observed disease symptoms are experienced from the beginning of the disease and whether a symptom is considered as related to the disease or not.

Opinions about the Illness Dimension: This dimension comprises 38 items and 7 subscales. These subscales include duration (acute/chronic), consequences, personal control, treatment control, understanding the disease, duration (circular) and emotional representations. Likert-type metrics with five choices are used where these are 'I definitely do not think so', 'I do not think so', 'I'm uncertain', 'I think so', and 'I definitely think so'.

Causes of the Illness Dimension: This dimension includes 18 items regarding the opinions of the patients on the potential causes of their diseases.

During the analysis of the collected data; frequency, percentage, Chi-square test, t test in independent groups, Mann-Whitney U test, and Kruskal Wallis variance analysis were used.

Results

The socio-demographic characteristics of the patients are presented in Table 1. 67.9% of the participating patients are female and 76.5% of them either only got primary school education or are illiterate. The mean age of the patients is 60±16.09. 25.9% of them live in city center while 30.2% of them live in villages. 89.4% of them live with their families.

17.6% of the patients participating in the study are smokers. 89.6% of them do not perform regular physical exercise. 36.6% of the patients belong to the pre-obese and 40.3% of them belong to the obese classes.

The health-related behaviors and the chronic diseases of the patients are provided in Table 2. Among these patients, 52.1% are diagnosed with hypertension, 32.7% with diabetes mellitus, and 19.3% with cardiovascular diseases. 47.1% of the patients declared that they perform practices

other than medication treatment. It is determined that 20.6% of these practices are religious practices and 19.8% of them are herbal ones.

Table 1. The Socio-Demographic Characteristics of the Patients

	N	%
Gender		
Female	237	67.9
Male	112	32.1
Place of Residence		
City (Province)	90	25.9
Town	153	44.0
Village	105	30.2
Marital Status		
Married	288	82.5
Single	61	17.5
Education Level		
Illiterate	147	42.1
Primary School	120	34.4
Secondary School	25	7.2
High School	34	9.7
University	23	6.6
Lives (with)		
Family	311	89.4
Alone	30	8.6
Other	7	2.0

Since some of the patients have not responded to some questions, the total counts may not be the same for all questions and may not include 100% of the patients.

55.9% of the participating patients consider stress or anxiety as the cause of their diseases while 48.8% of them consider emotional status, 40.2% of them consider their own behaviors, and 43% of them consider aging as the cause of their diseases.

The statistical information regarding the use of CAM methods with respect to illness perception is presented in Table 3. It is found that the scores calculated for illness duration, which is a subscale of illness perception, seem to vary with respect to having problems during medication usage and with respect to the use of CAM. Accordingly, patients who take their medications regularly have higher scores compared to those who do not; patients who experience problems during medication use have higher scores compared to those who do not, and patients who use CAM methods are found to have higher scores compared to the patients who do not use (P<0.05). No significant difference is found between illness duration and the characteristics of gender, education level, and BMI values (P>0.05).

The scores calculated for emotional representations are found to demonstrate significant differences with respect to the education level. Accordingly, patients with secondary school education or lower have significantly higher scores for emotional representations (P<0.05). No significant difference is observed between gender, marital status,

BMI, taking medications regularly, and the use of CAM methods with respect to the emotional representations average scores (P>0.05).

Table 2. The Health Related Behaviors and Distribution of the Chronic Diseases of the Patients

	N	%
Smoking		
Yes	61	17.6
No	286	82.4
Regular Physical Exercise		
Yes	36	10.4
No	311	89.6
BMI		
Thin	4	1.6
Normal	53	21.5
Pre-obese	90	36.6
Obese	99	40.3
Type of Chronic Disease		
Hypertension	182	52.1
Diabetes Mellitus	114	32.7
Cardiovascular Diseases	67	19.3
Kidney Diseases	29	8.3
Respiratory System Diseases	25	7.2
Neurological Diseases	21	6.1
Other (Cancer, Hepatitis C, etc.)	38	11.1
Regular Use of the Medications		
Yes	277	80.1
No	69	19.9
CAM Use		
Yes	162	47.1
No	181	52.6
CAM Methods		
Religious Practices	72	20.6
Herbal Practices	69	19.8
Music Therapy	9	2.6
Massage Therapy	6	1.7
Other	3	0.9

Since some of the patients have not responded to some questions, the total counts may not be the same for all questions and may not include 100% of the patients.

The scores calculated for personal controls are found to demonstrate significant differences with respect to the education level, taking medications regularly, being informed about the illness and the use of CAM methods. Accordingly, the personal control score averages of the patients having high school education or higher, those who take their medications regularly, patients who are informed about their illnesses and those who use CAM methods are

found to have significantly higher average personal control scores (P<0.05). No significant difference is observed among the personal control scores with respect to gender,

marital status, smoking, physical exercise, and BMI values (P>0.05).

Table 3. The Use of CAM Methods with Respect to Illness Perception

			Illness Duration	**P**
CAM	Yes	151	18.9±2.3	**0.028**
	No	160	18.0±4.2	
			Emotional Representations	
CAM	Yes	154	20.3±7.0	0.794
	No	166	20.0±7.1	
			Personal Control	
CAM	Yes	151	20.0±3.0	**0.002**
	No	162	18.7±3.9	
			Illness Outcome	
CAM	Yes	151	17.0±4.9	0.175
	No	168	16.2±5.3	
			Medication Control	
CAM	Yes	151	17.2±2.8	**0.019**
	No	168	16.4±3.2	
			Illness Consistency	
CAM	Yes	153	12.5±4.8	0.713
	No	163	12.7±4.6	
			Duration (Circular)	
CAM	Yes	149	15.0±3.6	0.320
	No	158	14.6±3.9	

Since some of the patients have not responded to some questions, the total counts may not be the same for all questions and may not include 100% of the patients.

Considering the scores calculated for illness outcome subscale of the illness perception scale, the average scores of the patients who experience problems during medication use are significantly higher (P<0.05). No significant difference is determined between the illness outcome scores with respect to gender, marital status, smoking, physical exercise, BMI, and the use of CAM methods (P>0.05).

It is found that significant differences exist among the scores calculated for the treatment control subscale of the illness perception scale with respect to BMI, experiencing problems during treatment, and the use of CAM methods. Accordingly, the patients with BMI values above normal, those who experience problems during medication use, and the patients who use CAM methods have significantly higher treatment control score averages (P<0.05). No significant difference is found among the treatment control scores considering gender, marital status, smoking, and physical exercise (P>0.05).

Considering the perceptual consequences subscale of the illness perception scale, the corresponding scores seem to demonstrate significant differences with respect to the education level and being informed about the disease. Accordingly, the patients who have secondary school education or lower have the highest scores (P<0.05) and those ones who declare that they did not get information about their diseases similarly have the highest scores (P<0.05). No significant difference is found for perceptual consequences with respect to the use of the CAM methods (P>0.05).

There is no significant difference between the scores calculated for the duration (circular) subscale of the illness perception with respect to gender, education level, BMI and the use of CAM methods (P>0.05).

Discussion

47.1% of the patients participating in the study use CAM methods. In a previous study by Molassiotis et al. in 14 European countries, it was found that the frequency of CAM use is 36% (15%-76%) among cancer patients [15]. Another study, on chronic kidney disease patients who take hemodialysis treatment, revealed that the frequency of CAM use among these patients was 26% [16]. In our study, it is observed that almost half of the patients with chronic diseases make use of CAM methods. The most commonly used CAM method in our study is prayer. Herbal practices appear as the second common method. In a related study by Araz et al., it was found that about one third of the patients explore different treatment techniques apart from seeing a physician and they mostly use prayers [17]. The study by Montazeri et al. showed that the CAM methods other than prayers and spiritual improvement are not popular among Iranian cancer patients [18]. Additionally, it was concluded that the use of CAM methods was common among patients who experience psychological problems such as fear, uncertainty, and dissatisfaction [18].

In a study by Hagger and Orbell; it was indicated that illness perception was associated with factors such as physical and social functions, psychological problems,

psychological well-being, vivacity, and health-related quality of life [19]. In the current study, significant difference is determined between illness duration, which is a subscale of illness perception, and the use of CAM. Regarding illness duration, whether the patients consider their illnesses as long-duration, short-duration or as repetitive is inquired. In various studies, it was found that knowing that a disease is chronic increases personal control [20, 21]. In our study, the patients who think that their illnesses are permanent may be in search of cures with the CAM methods.

No significant difference is observed between the use of CAM methods and the scores of emotional representations. The emotional representations scores of those patients who have secondary school education or lower are found to be higher. Through emotional representations, regarding their illnesses, the emotional reactions of the patients are assessed such as feeling sad, broken, anxious, and angry. In the study conducted by Camposa et al. on patients with chronic renal failure, the patients stated that the social indicators of their disease included survival, awareness regarding the end of life, and loss of freedom [22].

It is found that the personal control scores of the patients who use CAM methods are significantly higher compared to the patients who do not use CAM. In a study by Thomson et al., strong correlation was identified between the use of CAM and socio-demographic characteristics, health behaviors, and spirituality [23]. The patients with diabetes mellitus and the patients of cardiovascular diseases are found to be applying medicals and pharmacologists for medical treatment but they additionally use CAM methods. This situation was interpreted as follows: individuals used CAM methods in order to regain their personal and bodily controls [24]. According to a study carried out by Gerson-Cwilic et al., the use of complementary and/or alternative medicine was common among young women with advanced cancer and high education levels. Their families also participated during the use of the methods and most of these patients benefit from the methods in their general status [25].

The scores for the illness outcome subscale of illness perception are found to be higher for patients who use CAM methods. For deadly diseases like cancer, the patients used CAM methods to support medical treatment, to replace medical treatment, or to survive [26].

In our study, the treatment control scores of the patients applying CAM are found to be higher. Additionally, the average personal control scores are significantly higher for those patients who experience problems during the medication use (P<0.05). This situation might have motivated the patients to look for other remedies since they need to use the medications during their entire lives and they suffer from medication non-adherence. According to a study by Chrystal et al. CAM methods were frequently used by cancer patients in New Zealand [27]. Most of the patients were reported to practice multiple therapies, and they use CAM methods without consulting their oncologists [27]. This lack of communication regarding CAM between the patients and health personnel prevents the identification of harmful effects and possible positive/negative drug interactions [27].

The illness consistency subscale of illness perception is related to the understanding of the illness. No significant difference is determined between illness consistency and the use of CAM methods in our study. It is indicated in the literature that harmlessness perceptions regarding the disease and the excess of perceived disease burden might result in low adherence to medications. It was stated that positive opinions about the medications affect adherence to medications; additionally threatening situations regarding the disease and strong belief on the necessity of medications also led to positive adherence to medications [28].

In order to inform the patients about CAM, its advantages and disadvantages must be provided in an evidence-based manner. The awareness regarding CAM is low, however there is considerable interest to the CAM topic, therefore, the patients must be informed about the topic with the related programs focusing on the commonly used methods by the experts [29].

A preliminary abstract of this paper was presented at the 18th National Public Health Conference held in Konya - Turkey, on 5-9 October, 2015.

Conclusion

It is found that almost half of the patients who participate in our study use CAM methods. Chronic diseases necessitate the control of lifestyle and treatment throughout the entire life. The patients might have employed CAM methods in order to regain the control of their lives. In the study, significant correlation is determined between the use of CAM methods and the illness duration, personal control, and treatment control subscale scores of illness perception. The health personnel should inform the patients about the characteristics and risks of the CAM methods.

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