Original Article

The Effect of Health Literacy to Using Complementary and Alternative Medicine with Quality of Life: Hematological Cancers

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Abstract

Objective: This study was conducted to evaluate the effect of health literacy on CAM usage and health-related quality of life of hematologic cancer patients.

Methods: This cross-sectional study was conducted with volunteer patients with patients who were followed up and treated in a hematology clinic and polyclinic of a hospital in Bursa. The research data were collected from the "Individual Identification Form" which was developed by the researchers according to the literature, "Health Literacy Questionnaire-European Union (HLS-EU) Scale" and "European Organization for Research and Treatment of Cancer Quality of Life-C30 (EORTC QLQ-C30)" scale.

Results: The mean age of the 81 hematologic cancer patients who constitute the sample of the study was 11% of them use CAT method. It was detected that while patients used CAT methods such as "herbal medicines", "nutritional treatments and additives" and "hot spring" (respectively %37; %35.8; %29.6) once or twice, they use "self-care" (%46.9) and "praying" (%63) on a regular basis. As participants' health literacy mean score was at the limited level with 29.21 ± 12.79. the EORTC quality of life scale overall health status mean score was at mid-level with 53.80 ± 23.64. A weak positive correlation was found between the general health status of the patients and the health literacy score ($r = 228$. $p = 0.041$).

Conclusion: In our study, the use of CAM of hematologic cancer patients is not common and the general health status improves as the level of health literacy of the patients increases.

Keywords: Hematologic cancer, Complementary and alternative therapy, Health literacy, Quality of life.

Introduction

Health literacy (HL) is defined as the capacity of the individual to obtain, process, and understand basic health information and services needed to make appropriate health decisions (Dumenci et al., 2014). It has been found that the general population in Europe and the United States has inadequate or limited health literacy with the rates of 47% and 36%, respectively, while low educational level, age

above 65 and presence of chronic diseases have a negative effect on HL (Kutner et al., 2003; Sorensen et al., 2006). In Turkey, health literacy has been reported to be inadequate in 24.5% and limited in 40.1% of the general population (Tanriover et al., 2014).

However, today, it is easy to access medical information provided by the media along with technological means such as web services and smartphones. Mcinnes and Haglund reported that the health behaviors of approximately half of those who use the Internet to get health information are affected, but web-based health education materials are not clearly understood due to low health literacy (Mcinnes & Haglund, 2011).

In management of hematological cancers, which require a long and complex treatment process, it is valuable that patients are knowledgeable and reflect this on care in order to prevent negative health outcomes. Halverson et al. reported a positive correlation between health literacy and health-related quality of life in patients treated for solid tumours (Halverson et al., 2015).

In addition, it was reported that low health literacy leads to negative effects on physician-patient communication and patient autonomy, and confusion about treatment and care protocols, all of which were more prominent among the elderly cancer patients (Amalraj et al., 2009).

Davis et al. emphasized the importance of communication in cancer screening and treatment programs and keeping accurate records, and stated that it was of great importance for health professionals to consider patients' health literacy. In particular, low health literacy is considered to limit patients' accessing, understanding and processing cancer information (Davis et al., 2002). The management of hematological malignancies is complex depending on the nature of the disease, treatments administered and characteristics of patients, and successful disease-management is closely related to the empowered patient (Nolte et al., 2008).

Cancer patients make use of complementary and alternative medicine (CAM) methods to manage symptoms and maintain well-being (Dissiz et al., 2016). Jaime-Perez et al. found that 45% of the patients followed-up for at least one year for hematological malignancy tried CAM methods and the rate of CAM was higher among those with higher education (Jaime-Perez et al., 2012).

The rate of CAM use among the patients who were followed up and treated for hematologic malignancies was 81.6% before diagnosis and 70.2% after diagnosis. The same study reported that 60% of patients did not disclose their use of CAM to their primary care providers and spent approximately 180 US dollars on CAM per month (Gan et al., 2015).

It has been reported that the unprescribed and uncontrolled use of CAM due to insufficient knowledge and/or misinformation have resulted in various complications, delay in treatment, decreased chances of survival and increased mortality rates in line with the increasing number of patients using CAM as a result of easy access to information about these methods through various ways and channels (Kapucu & Bal, 2009).

In this regard, it is important for positive health outcomes that patients are informed about CAM methods by the nurses they are in constant contact with, understand the information they acquire and reflect such information in their self-care practices. At the same time, nurses should be expected to evaluate patients' level of comprehension and capacity to process the information they receive. By taking this information into consideration, we aimed to evaluate the effect of health literacy level of hematological cancer patients on CAM use and health related quality of life.

Patients and Methods

Study design: This cross-sectional study was designed to evaluate the effect of health literacy level on the use of CAM and health-related quality of life in patients with hematologic cancers.

Sample: The sample of the study consisted of 81 hematologic patients over 18 years of age who were followed up and treated at the Hematology polyclinic and clinic of a hospital in Bursa between 15 September 2017-15 June 2018 (Figure 1).

Data Collection: The data were collected by means of "Individual Presentation Form" developed by the researchers according to the literature, "Health Literacy Questionnaire-European Union (HLS-EU) scale" and "The European Organization for Research and Treatment of Cancer Quality of LifeC30 (EORTC QLQ-C30)".

Individual Presentation Form: The form developed by the researchers in line with the literature (Dumenci et al., 2014. Acikgoz et al., 2014), consists of a total of 23 questions including patients' socio-demographics, treatment characteristics, and knowledge and use of CAM.

Health Literacy Survey-European Union (HLS-EU-Q47): HLS-EU-Q47 includes 47 questions with each response evaluated on a scale ranging from 1 to 4 (1=very difficult, 2=difficult, 3=easy, 4=very easy). Sub-indices based on the average values of the health literacy parameters were formed within the conceptual framework of the HLS-EU. The indices for health literacy were standardized at a scale ranging between 0 and 50 with 0 representing the lowest health literacy and 50 the highest health literacy. The Cronbach's alpha value above 0.80 indicates that the reliability of the scale is high (Tanrıover et al., 2014).

EORTC QLQ-C30 Version 3.0: The scale was developed by EORTC and is widely used to assess the quality of life of cancer patients worldwide. Item-analysis revealed high internal consistency and the Cronbach's alpha coefficient was found as r=0.9014. The scale consists of 30 questions under three subheadings: general well-being, functional scale, and symptom scale. High scores obtained from the scale indicate a high quality of life while lower scores indicate decreased quality of life (Beser & Oz, 2003; Fayers, et al., 2001).

Statistical Analysis: The study data were evaluated by creating a database in IBM Statistical 22.0 package program (Statistical Package for Social Sciences, version 22. SPSS Inc; Chicago, IL, USA). The Mann Whitney-U and Kruskal-Wallis tests were used to test the differences between patients' sociodemographic variables, CAM use and knowledge, and HLS-EU and EORTC scale scores. Spearmen's correlation test was used to evaluate the relationship between these scale scores. The normally distributed continuous variables were reported as mean±standard deviation, and the not normally distributed continuous variables were reported as median and quartiles. Categorical variables were expressed as frequencies and percentages. A value of $p<0.05$ was considered statistically significant.

Ethical considerations: Ethics committee approval dated 13.06.2017 with number 2017-220 was obtained from Eskisehir Private Umit Hospital Ethics Committee prior to the study and written consent was obtained from the relevant institution. All patients were informed about the study and their written informed consent was obtained.

Results

Sample Characteristics: A total of 81 patients were included in the study and the mean age was 46.81±17.39 years (minimum: 18-maximum: 76). It was determined that 54.3% of the patients were women, 56.8% were married, 35.8% were high school graduates, 65.4% had moderate-income and 44.4% lived in Marmara Region. It was determined that 69.1% of the patients received chemotherapy and 51.9% made medical decisions on their own (Table 1).

Participants' HLS-EU-Q47 scale scores: The mean HLS-EU-Q47 score of the patients was 29.21±12.79. The results of our study revealed no significant difference between the mean HLS-EU-Q47 scores and patients' gender, place of birth, marital status, income, treatment type and decision, CAM use ($p> 0.05$), while a statistically significant difference was found between patients' educational status. The HLS-EU scores of university graduates were significantly higher than those of primary school graduates and literate patients [(Literate: 16.6. Primary school graduates: 27.48. University graduates: 36.87) (p: 0.002)] (Table 1).

Complementary and alternative (CAM) treatment methods: While 11.1% of the participants were CAM users, 88.9% did not use any CAM methods (Table 1). Patients using CAM reported an average expenditure of 4.96±34.09 TL per month. It was determined that 5 out of 9 CAM users started to use CAM after diagnosis, informed their doctor about CAM and used CAM to 'enhance the immunity' (44.4%). It was found that the most cited reason for not using CAM was 'satisfaction with medical treatment' (48.1%). Patients knew about CAM mainly through 'friends' (34.6%), 'physicians' (27.2%), other patients (25.9%) and family/relatives (23.5%) (Table 2). Of the participants, 67.9% had general knowledge about "herbal treatment, 72.8% about "nutrition therapies and supplements, 64.2% about "thermal spring' and 60.5% about "cupping" methods, and they reported trying them one or two times (35.8%; 29.6%; 13.6% respectively). The patients regularly used 'prayer' (63%) and 'self-care' (46.9%) among the CAM

methods (Table 3). Of the patients, 74.1% stated that 'CAM methods can delay people getting the right treatment'; 56.6% stated that 'CAM methods are as effective as medical methods' and 87.7% stated that 'scientific evidence should be obtained before CAM methods are used as therapeutic practices'. Of the patients, 64.2% found that 'before applying to the physician, it is necessary to apply CAM methods' is correct.

Participants' EORTC QLQ-C30 scale scores: The mean EORTC QLQ-C30 functional, symptom and general health subscales scores of patients were 57.64±22.10. 38.20±22.48. and 53.80±23.64. respectively. There was no significant difference between the mean EORTC QLQ-C30 symptom and global health status subscale scores and patients' socio-demographics, use of CAM, treatment type and decision (p>0.05) (Table 1).

Effect of participants' health literacy level on quality of life and CAM use: The present study detected a weak positive correlation between the HLS-EU-Q47 score and the EORTC QLQ-C30 global health status subscale score (r:.228. p:0.041). The evaluation of the patients' HLS-EU-Q47 score distributions according to CAM use showed that the mean score of CAM users was 23.12±12.14 while non-CAM users had 29.97±12.74. There was no difference between the distributions of the patients' HLS-EU-Q47 scores according to CAM use (p: 0.08) (Table 1). There was no significant correlation between the HLS-EU-Q47 and EORTC QLQ-C30 subscale scores and CAM expenditures (p>0.05) (Table 4).

Discussion

Health literacy is of great importance for patients with hematologic cancers to manage symptoms associated with illness and treatment, to perform self-care effectively, to make their own medical decisions and to lead a better quality of life.[10] It has been shown that adequate health literacy level is associated with increased CAM use (Bains & Egede, 2011; Gardiner et al., 2013). This study evaluates the impact of health literacy on the use of CAM and health-related quality of life in patients with hematologic cancers.

The participating hematologic patients with cancer fall into the category of 'limited/problematic health literacy'. The findings of higher literacy among patients with high educational status are similar to those in the literature (Halverson et al., 2015). The review of the literature suggests that cancer patients with limited/inadequate health literacy use preventive services inadequately, (Dissiz & Yilmaz, 2016; Morris et al., 2013) participate in cancer screening tests less frequently (Akyol & Oz, 2011) and have more hospitalization frequency and longer hospital stay (Cartwright et al., 2017). In our study, 11% of the patients reported that they currently use CAM methods, out of which "praying" was the most preferred method (63%). 'Herbal therapy' and 'nutritional therapies and supplements' were among the most preferred CAM methods by the patients in our study. It was also observed that the majority of patients knew about thermal springs and cupping and used these methods in the past. CAM methods are widely used among cancer patients, however, there is a limited number of studies on CAM use among individuals with hematological cancer. Relevant studies demonstrate that the rate of CAM use among hematological cancer patients varies between 16-70% (Dumenci et al., 2014; Hierl et al., 2017). It was thought that the low rate of CAM use in our study, contrary to the studies in the literature, might be because other studies questioned the current and previous use of CAM together. In addition, the reason for avoiding from using these methods may be due to the fact that the majority of patients (74.1%, 56.6%, respectively) in our study think that 'CAM methods may cause a delay in receiving correct treatment' and 'CAM methods are not as effective as medical methods'.

Similar to our research findings, a study conducted by Karacan et al. with patients undergoing stem cell transplantation found that 55.8% of the participants used religious practices (Karacan et al., 2012). The fact that religious practices were among the most preferred CAM methods was attributed to the fact that the majority of people living in Turkey (99.6%) are followers of a religious belief. Praying is a part of their belief system and that they believe God has a plan for everything. The study of Gan et al. performed among cancer patients in Malaysia noted that praying was widely used because 96% of the patients were believing a religion (Gan et al., 2015).

Table 1. The median and quarterly distributions of European Health Literacy Survey (HLS-EU-Q47) and European Organisation for Research and Treatment of Cancer Quality of Life-C30 (EORTC) subscales scores according to the socio-demographic and treatment characteristics of the patients and the use of CAM.				HLS-EU		EORTC-30 Subscales					
						Functional Score		Symptom score		Global Health Score	
Characteristics		n	%	Median (Q1-Q3)	p	Median (Q1-Q3)	p	Median (Q1-Q3)	p	Median (Q1-Q3)	p
Gender	Female	44	54.3	33.33(23.75-36.43)	0.104	63.33(47.22-66.66)	0.894	33.33(25.64-43.58)	0.745	50.00(33.33-66.66)	0.276
	Male	37	45.7	28.36(21.98-33.33)		66.66(44.44-71.11)		33.33(28.20-48.71)		58.33(33.33-66.66)	
Birthplace	Internal Anatolia R.	4	4.9	35.81(34.21-43.26)	0.389	56.66(55.55-62.22)	0.627	33.33(30.76-35.89)	0.260	45.83(37.50-70.83)	0.151
	Aegean R.	6	7.4	24.29(0.00-34.75)		66.66(62.22-66.66)		33.33(33.33-33.33)		66.66(50.00-66.66)	
	Marmara R.	36	44.4	30.14(23.04-35.28)		62.22(40.00-71.11)		33.33(21.79-53.84)		58.33(33.33-75.00)	
	Black Sea R.	6	7.4	31.73(29.78-32.97)		76.66(55.55-82.22)		20.51(5.12-30.76)		62.50(50.00-66.66)	
	Mediterranean R.	7	8.6	31.56(17.90-34.75)		66.66(57.77-72.22)		28.20(26.92-33.33)		66.66(45.83-66.66)	
	Southeast R.	4	4.9	35.63(28.90-41.84)		56.66(5.55-73.33)		43.58(24.35-74.35)		33.33(20.83-54.16)	
	İmmigrant *	18	22.2	31.91(16.66-34.04)		61.11(44.44-66.66)		33.33(30.76-46.15)		50.00(33.33-58.33)	

		n	%		p		p		p		p
Education	**Literate**	9	11.1	16.66(0.00-31.56)a	**0.002**	55.55(44.44-66.66)	0.406	33.33(33.33-38.46)	0.516	50.00(16.66-66.66)	0.81
	Primary School	18	22.2	27.48(16.66-33.33)b		63.33(44.44-66.66)		33.33(25.64-48.71)		50.00(33.33-66.66)	
	Middle School	13	16.0	27.30(22.69-36.87)c		55.55(42.22-66.66)		30.76(28.20-38.46)		41.66(33.33-50.00)	
	High School	29	35.8	32.26(25.17-35.10)d		66.66(46.66-77.77)		33.33(15.38-41.02)		58.33(50.00-66.66)	
	University	12	14.8	36.87(33.33-44.50)e		66.66(51.11-67.77)		33.33(30.76-39.74)		66.66(50.00-75.55)	
Income Status	**Good**	16	19.8	34.04(25.35-37.41)	0.97	61.11(45.55-66.66)	0.689	33.33(25.64-55.12)	0.313	58.33(50.00-83.33)	0.265
	Middle	53	65.4	32.62(23.04-35.10)		66.66(44.44-75.55)		33.33(25.64-41.02)		50.00(33.33-66.66)	
	Low	12	14.8	17.90(6.91-32.97)		58.88(48.88-66.66)		33.33(33.33-51.28)		45.83(20.83-66.66)	
Treatment Type	**Chemotherapy**	56	69.1	32.62(23.04-35.10)	0.155	60.00(44.44-67.77)f	**0.045**	33.33(26.92-47.43)	0.05	50.00(33.33-66.66)	0.415
	Radiotherapy	4	4.9	31.73(16.66-56.73)		55.55(22.22-62.22)g		46.15(33.33-74.35)		58.33(50.00-66.66)	
	Bone Marrow Therapy	5	6.2	16.66(0.00-25.88)		50.00(22.22-61.11)h		50.00(33.33-83.33)		33.33(16.66-58.33)	
	Other**	16	19.8	32.80(25.00-38.29)		66.66(65.55-77.77)i		30.76(16.66-33.33)		62.50(45.83-75.00)	
Health and Treatment Decision	**Myself**	42	51.9	32.79(22.34-36.52)	0.416	66.66(53.33-75.55)	0.757	33.33(23.07-38.46)	0.527	58.33(41.66-66.66)	0.583
	My Partner	7	8.6	24.82(19.68-32.44)		66.66(48.88-66.66)		35.88(33.33-43.58)		50.00(50.00-70.83)	
	Our Children	2	2.5	13.8(0.00-27.65)		57.77(48.88-66.66)		32.05(30.76-33.33)		33.33(16.66-50.00)	
	All Family Members	29	35.8	32.62(26.95-35.46)		55.55(44.44-66.66)		33.33(28.20-53.84)		50.00(33.33-66.66)	
CAM Usage	**Using CAM**	9	11.1	22.69(16.66-31.56)	0.088	53.33(35.55-66.66)	0.112	33.33(33.33-64.10)	0.218	50.00(33.33-58.33)	0.291

	Not Using CAM	72	88.9	32.62(23.22-36.17)		66.66(45.55-72.22)		33.33(25.64-41.02)		50.00(33.33-66.66)	
CAM Begin Time	**Before getting diagnosed**	2	2.46	34.04(25.88-42.19)	0.171	45.55(35.55-55.55)	0.432	39.74(15.38-64.10)	0.372	54.16(50.00-58.33)	0.393
	After getting diagnosed	5	6.17	19.14(16.66-22.69)		53.33(46.66-66.66)		33.33(33.33-64.10)		33.33(33.33-41.66)	
	Currently using	2	2.46	32.44(31.56-33.33)		50.00(33.33-66.66)		51.12(35.89-66.66)		70.83(58.33-83.33)	
				a-e(p=0.003) b-e(p=0.006)		f-i(p=0.024) g-i(p=0.039) h-i(p=0.048)					

*Bulgaria/Greece, ** Intravenous immunoglobulin treatment (IVIG), Blood products treatment, Corticosteroids

Table 2. Percentage distribution according to the CAM usage characteristics and CAM responses of the patients

			n	**%**
Reasons for using CAM	To strengthen the body's immunity		4	4.9
	To fight the disease directly		1	1.2
	To shrink the tumour		2	2.5
	To deal with the side effects of treatment received		1	1.2
	As recommended by physician		1	1.2
Reasons for not using CAM	Satisfied with the medical treatment received		39	48.1
	Not believing the effectiveness of CAM		19	23.5
	Lack of knowledge of CAM methods		4	4.9
	Never thought of using CAM methods before		2	2.5
	Not wanting to spend for CAM		3	3.7
	Family not wanting to use CAM		5	6.2
	The physician does not want to use CAM		6	7.4
CAM sources of information	TV / Radio / magazine news		14	17.3
	Internet		6	7.4
	Spouse / friend / family members / relative		19	23.5
	Friend		28	34.6
	Other patients		21	25.9
	Physician		22	27.2
	Nurse		5	6.2
	Other staff working in the hospital		1	1.2
	Books / magazines / newspapers		1	1.2
	Course		6	7.4
Patients' responses to CAM	CAM methods can delay people getting the right treatment.	**Correct**	60	74.1
		Wrong	20	24.7
		No idea	1	1.2
	CAM should only be used as the last option where medical treatment is insufficient.	**Correct**	54	66.7
		Wrong	26	32.1
		No idea	1	1.2
	Before applying to the physician, it is necessary to apply CAM methods.	**Correct**	28	34.6
		Wrong	52	64.2
		No idea	1	1.2
	CAM methods can only be used for simple diseases, not for severe serious diseases.	**Correct**	57	70.4
		Wrong	23	28.4
		No idea	1	1.2
	CAM methods prepare the body for defence and respond better to medical treatment.	**Correct**	35	43.2
		Wrong	45	55.6
		No idea	1	1.2
	CAM methods are as effective as medical methods.	**Correct**	35	43.2
		Wrong	46	56.8
	'Scientific evidence should be obtained before CAM methods are used as therapeutic practices'	**No idea**	71	87.7
		Correct	10	12.3

Table 3. CAM Information and Usage Percentage of Patients

CAM Methods	Knowledge						Usage							
	Doesn't Know		Knowing in general		Knowing exactly		Never use		Using 1-2 times		Using for a while		Using regularly	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Acupuncture	34	42	43	53.1	4	4.9	73	90.1	8	9.9	-	-	-	-
Massage	28	34.6	46	56.8	7	8.6	60	74.1	11	13.6	7	8.6	3	3.7
Yoga	44	54.3	36	44	1	1.2	73	90.1	5	6.2	2	2.5	1	1.2
Herbal Medicines	21	25.9	55	67.9	5	6.2	37	45.7	30	37	8	9.9	6	7.4
Nutritional treatments and supplements	15	18.5	59	72.8	3	3.7	31	38.3	29	35.8	13	16	8	9.9
Naturopathic	60	74.1	18	22.2	3	3.7	73	90.1	5	6.2	3	3.7	-	-
Relaxation techniques	49	60.5	28	34.6	4	4.9	71	87.7	7	8.6	3	3.7	-	-
Dreaming	38	46.9	32	39.5	11	13.6	53	65.4	17	21	3	3.7	8	9.9
Biofeedback	63	77.8	15	18.5	3	3.7	70	86.4	7	8.6	1	1.2	3	3.7
Thermal spring	10	12.3	52	64.2	19	23.5	36	44.44	24	29.6	14	17.3	7	8.6
Self care	18	22.2	43	53.1	20	24.7	23	28.4	8	9.9	12	14.8	38	46.9
Praying	7	8.6	38	46.9	36	44.4	10	12.3	6	7.4	14	17.3	51	63
Bioenergy	53	65.4	24	29.6	4	4.9	71	87.7	5	6.2	2	2.5	3	3.7
Hydrotheraphy	44	54.3	35	43.2	2	2.5	62	76.5	13	16	4	4.9	2	2.5
Meditation	50	61.7	29	35.8	2	2.5	76	93.8	2	2.5	3	3.7	-	-
Aromatherapy	62	76.5	17	21	2	2.5	76	93.8	4	4.9	-	-	1	1.2
Cupping	26	32.1	49	60.5	6	7.4	65	80.2	11	13.6	4	4.9	1	1.2
Breathing exercises	44	54.3	33	40.7	4	4.9	65	80.2	13	16	2	2.5	1	1.2
Hot-cold application	47	58	31	38.3	3	3.7	66	81.5	10	12.3	4	4.9	1	1.2
Music therapy	40	49.4	35	43.2	6	7.4	59	72.8	13	16	6	7.4	3	3.7
Hypnosis	54	66.7	26	32.1	1	1.2	78	96.3	3	3.7	-	-	-	-

Table 4. Correlation distributions between patients' age, CAM expenditures, HLS-EU and EORTC-30

Characteristics		1	2	3	4	5
1. Age	r					
	p					
2. CAM Expenditures	r	-.175				
	p	0.118				
3. HLS-EU	r	-.160	.050			
	p	0.155	0.658			
4. Functional score	r	-.114	-.082	.113		
	p	0.310	0.467	0.316		
5. Symptom score	r	.042	.007	-.032	**-.752**	
	p	0.710	0.951	0.779	**<0.001**	
6. Global health score	r	**-.238**	-.021	**.228**	**.672**	**-.461**
	p	**0.032**	0.855	**0.041**	**<0.001**	**<0.001**

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┌─────────────────────────────────┐
│ Assesed for eligbility (n=180)  │
└─────────────────────────────────┘
                │
                │                      ┌──────────────────────────────────┐
                │ ────────────────────▶│ Excluded (n=99)                  │
                │                      │                                  │
                │                      │   -  refusing to participate     │
                │                      │   -  repeated follow-up          │
                │                      │   -  missing data form           │
                │                      └──────────────────────────────────┘
                │
┌─────────────────────────────────┐
│ Allocated and analysed (n=81)   │
└─────────────────────────────────┘
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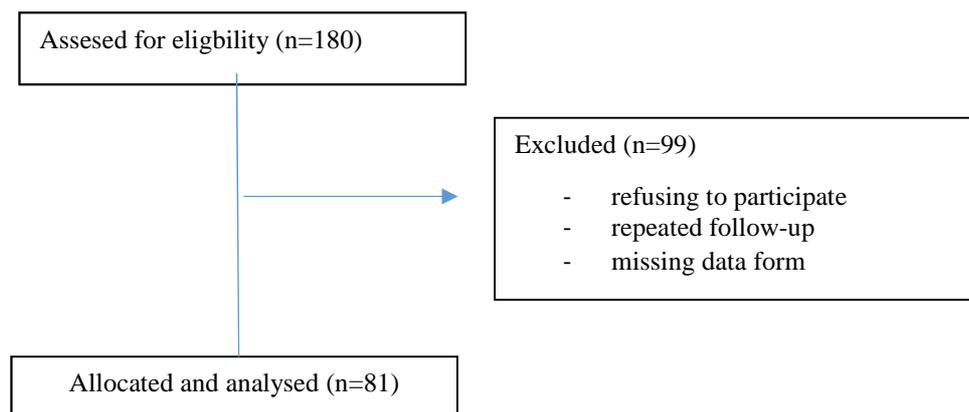
Fig.1 Subjects' recruitment Flow Diagram

The review of the literature demonstrates that cancer patients in Turkey most commonly use herbal products and nutritional supplements among CAM methods (Akyol & Oz, 2011; Arıkan et al., 2019). This was attributed to the fact that herbal treatment, among the others, are cheaper, easily accessible, do not require prescriptions, and herbal products are more popular and best-known to the traditional structure of the society. There is also a common belief among patients that herbal (natural) products are safe because of their 'naturalness' (Akyol & Oz, 2011) However, these products have possible negative effects such as toxicity, adverse interactions with anticancer drugs, resulting in decreased dose efficacy and increased chemosensitivity of cancer cells (Firkins et al., 2018). Therefore, it is necessary that health care professionals evaluate patients' behaviors towards the use of CAM, conduct necessary research, and discuss openly with patients and their relatives about CAM methods.

The mean global health status score of the patients was at intermediate level with 57.64 ± 22.10. The study of Bıkmaz found the mean EORTC QLQ-C30 global health status score of leukemia patients as 59.76. which was at a similarly moderate level (Bıkmaz, 2009). Studies have shown that the quality of life of cancer patients receiving chemotherapy is negatively affected (Allart-Vorelli et al., 2015) and there is a significant decrease in the EORTC QLQ-C30 global health status score of (15 points) patients after stem cell transplantation (Grulke et al., 2012). The EORTC QLQ-C30 functional scores of patients treated with steroids, targeted therapy, and blood products were higher than those treated with chemotherapy, radiotherapy or stem cell transplantation. This can be explained by the fact that chemotherapy, radiotherapy and stem cell transplantation treatments have more side effects and adverse symptom burden on patients.

Quality of life has gained more importance among individuals along with technological advances in health and increased lifetime expectancy. The relationship between health literacy and quality of life has been subjected to various studies and the impact of health literacy on quality of life has been of interest. A meta-analysis examining the correlation between health literacy and quality of life revealed that health literacy was moderately correlated with quality of life; and there was a positive correlation between the quality of life and healthcare knowledge, healthy behaviors, health beliefs and health skills (Zheng et al., 2018). Özkaraman et al. showed that higher health literacy was associated with improved quality of life of cancer patients living in Turkey, similar to the results of our study (Ozkaraman et al., 2018). This was attributed to the higher rate of unhealthy behaviors among individuals with limited/inadequate health literacy. It is reported that health literacy and CAM use are associated with positive health behaviors in individuals with chronic diseases. The results of our study revealed no correlation between health literacy and CAM use, with only a small number of patients using CAM. Contrarily, other relevant studies found that adequate health literacy increases the use of CAM (Bains &Egede, 2018; Gardiner et al., 2013) and individuals with higher health literacy levels use relaxation techniques three times more than those with lower levels (Gardiner et al., 2013).

The difference between these results may be associated with the small sample size of our study. This study was limited to patients with hematologic cancers at a single health institution in Turkey. The patients were randomly selected and the study was conducted with a small number of CAM users who met the inclusion criteria. Therefore, these results are not generalizable to all patients. Another limitation was the excessive number of questions in the data collection tools used in the study, therefore, we recommend further studies to be conducted with larger samples and data collection tools containing fewer questions.

Conclusion: Hematological cancer patients have 'limited/problematic' health literacy and patient's CAM usage rate is low. There is no relationship between health literacy level and CAM use, however, health literacy improves general health status. Health professionals should consider and evaluate patients "health literacy" levels, as limited/problematic health literacy can negatively affect individuals' ability to access and understand information about their illness. In our study, patients using CAM mostly use "herbal medicines", "nutritional treatments and additives"and get information about CAM from their friends. However, unconscious and uncontrolled use of these CAM methods can lead to negative consequences for patients. To improve patient safety and patient outcomes, healthcare professionals should inform about CAM methods to haematological cancer patients and talk openly about their use of CAM methods.

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