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The Health Literacy and Health-seeking Behavior of Patients with a Chronic Disease Requiring Hospitalization

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What is known on this subject?

Health literacy and health-seeking behavior in people with chronic illness.

What this study adds?

In the debate on diving health inequalities, health knowledge (HL) has been conceded by the World Health Organization as a crucial determinant of health and good. Rapid development of coronavirus disease-2019 (COVID-19) into a epidemic has called for people to acquire and apply health information, and acclimatize their geste at a fast pace. HL and health-seeking behaviours should concentrate on; perfecting the quality of health communication that reaches a diversity of populations, especially by perfecting frontline professional chops and suppor, enabling people to develop transmittable chops in penetrating, understanding, assaying, and applying health information; and icing that precedence is proportionate to need by reaching and engaging the population groups who are disproportionately affected by low HL.

ABSTRACT

Objective: Health literacy is a broad term encompassing how an individual obtains, understands, evaluates and applies correct health information for a disability-free life and to be able to maintain quality of life in sickness and in health throughout their lifetime. The sources of correct information and health literacy are important factors in being able to achieve the successful management of chronic diseases in particular. This study aimed to examine the relationship between health literacy and health-seeking behaviors and the characteristics of patients with a chronic disease requiring hospitalization.

Material and Methods: The study sample was formed of 194 patients, aged >18 years, treated in the internal medicine clinics of training and research hospital in Istanbul between 1 February and March 30, 2022. Data were collected using a questionnaire consisting of 3 sections. In the statistical analysis, IBM SPSS vn. 23.0 software was used.

Results: A significant negative relationship was determined between health literacy and health-seeking behaviors and age and education level of the demographic characteristics (p<0.05). Online health-seeking behavior was determined to be lower in patients with cardiac and chest diseases, and health-seeking behavior was seen to be higher on the first hospitalization (p<0.05).

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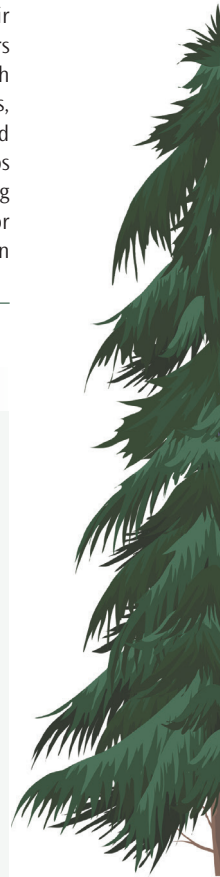
Conclusion: It can be considered that studies related to the health literacy and health-seeking behaviors of patients with a chronic disease will be an important source for disease management, enabling patients to lead a disability-free life.

Keywords: Health, literacy intervention, seeking behavior, chronic disease

Introduction

Information and education are basic rights of all healthy and sick individuals in society. In this respect, health literacy is a broad term encompassing how an individual obtains, understands, evaluates and applies correct health information for a disability-free life and to be able to maintain quality of life in sickness and in health throughout their lifetime (1). The United States of America Health and Human Services Department have stated that the target for 2030 is that "health literacy occurs when services are provided that will enable easy access to correct health information that can be understood and used, which will affect people's decisions and actions". This goal emphasizes the need to focus on both those who transmit information and those who seek information in the effective dissemination of health information (2).

Chronic diseases are diseases that tend to be long-term, originating from a combination of non-contagious genetic, physiological, environmental, and behavioral factors. A lack of information or incorrect information in chronic disease conditions not only limits the efficacy of treatment but also has a negative effect on self-care and quality of life. Patients with chronic diseases seek health information more on subjects related to drug information, nutrition, disease management, and disease preventative activities. Access to this information is usually currently obtained from healthcare professionals through online or traditional routes. Studies in the literature related to health literacy conducted on patients with chronic diseases have consistently stated that e-health interventions for individuals with chronic diseases have a significant effect on increasing patient participation in and self-management of healthcare services (3).

To be able to maintain quality of life and a disability-free life, especially in chronic diseases, information sharing related to health literacy is a two-way process requiring communication skills to know which questions to ask and which information to share, for the information recipient to be able to access and understand the shared information, and to be able to make the right decision related to the information and put it into practice. Therefore, the healthcare provider has the responsibility to transmit accurate information and the patient to be an active participant in care.

From this starting point, healthcare professionals play a crucial part in promoting health knowledge in cases to help them pierce the healthcare system effectively. This includes helping patients to find, understand, and evaluate health information. Healthcare professionals should evaluate the health literacy needs of patients and check the understanding of the patient for communication of sufficient health information (4).

This study aimed to examine the relationship between health literacy and health-seeking behaviors and the demographic and disease-related characteristics of patients with a chronic disease requiring hospitalization.

Material and Methods

Study Universe and Sample

The study universe was formed of patients treated in the internal medicine clinics of training and research hospital in Istanbul between 1 February and March 30, 2022. Repeated hospitalizations were discounted, and from a total of 364 patients, a minimum sample size of 170 patients was determined from the results of the G*Power 3.1 analysis. The study sample consisted of 194 patients aged >18 years who agreed to participate in the study.

Data Collection Tools

A questionnaire of 3 sections was used for data collection purposes in this study. In the first section, the participants were asked questions to elicit personal and disease-related information. The second section of the questionnaire consisted of the health literacy scale, which was tested for validity and reliability in Turkish by Aras and Bayık Temel (5). This scale consists of 25 items in 4 subscales of access to information (1-5), understanding information (6-12), evaluation (13-20), and application/use (21-25) (5). The internal consistency coefficient (Cronbach alpha) of the health literacy scale has been reported to be 0.92. The third section of the questionnaire comprised the health-seeking behaviour scale, which was developed by Kıraç and Öztürk (6). This scale consists of 12 items in 3 subscales of online search, traditional search, and professional search (6). The internal consistency coefficient (Cronbach alpha) of the health-seeking behaviour scale has been reported to be 0.83.

Authorization for the study was attained from the Ethics Committee of University of Health Sciences Turkey, Umraniye Training and Research Hospital (decision no: 1741, dated: 11.01.2021). Written informed consent for participation in the study was obtained from all patients.

Statistical Analysis

Data obtained in the study were analyzed statistically using IBM SPSS vn. 23.0 software. Descriptive statistical methods were used with continuous data reported as mean ± standard deviation values and categorical data as number (n) and percentage (%). The independent samples t-test, variance tests, and correlation analyses were also used.

Results

The demographic characteristics and disease-related information of the patients hospitalized and treated in the internal clinics are shown in Table 1.

The evaluation was made of 194 patients, comprising 99 (51%) females and 95 (49%) males with a mean age of 57.12±15.71 years. Of the total patients, 125 (64.4%) were married, 124 (63.9%) had a primary school level of education, and 75 (38.7%) were not employed. The hospitalization data were examined and it was seen that 70 (36.1%) were hospitalized in the internal medicine clinic, 96 (49.5%) had been diagnosed within the last year, and 74 (38.1%) had been hospitalized once in the last year (Table 2).

The relationships were examined between the demographic characteristics of the patients and the subscales of the Health Literacy Scale.

A negative correlation was determined between age and the subscales, at a level of statistical significance for access to information (-0.286*) and understanding information (-0.314*).

The access to information, evaluation, and application points of females were higher than those of males, and the understanding information points of males were higher than those of females, but the differences were not statistically significant. The health literacy subscale points of single patients were lower than those of the patients who were married or divorced, but not at a level of statistical significance.

In the evaluation of education level, the health literacy subscale points of the patients with a high school or further education level were seen to be higher, and in the understanding information subscale, the points of the patients with a primary school level of education (10.31±6.53) were determined to be statistically significantly lower (p=0.000*).

Clerical workers were seen to have high points in the access to information subscale, manual workers had low points in the evaluation subscale, and retired patients had low points in the application subscale. The understanding information subscale points of the unemployed patients (9.76±6.26) were determined to be statistically significantly low (p=0.000*).

Patients hospitalized in the chest diseases clinic were determined to have lower health literacy subscale points than

Table 1. The demographic characteristics and disease-related information of the patients hospitalized and treated in the internal clinics

Age (years)	57.12 (18-91)	SD 15.71	
		N	%
Gender	Female	99	51.0
	Male	95	49.0
Marital status	Married	125	64.4
	Single	59	30.4
	Divorced	10	5.2
Education level	Primary school	124	63.9
	High school	43	22.2
	Further education	27	13.9
Occupation	Unemployed	75	38.7
	Manual worker	27	13.9
	Retired	20	10.3
	Clerical worker	34	17.5
	Self-employed	38	19.6
Clinic in which hospitalized	Internal	70	36.1
	Nephrology/endocrine	28	14.4
	Cardiology	22	11.3
	Onco-hemato	13	6.7
	Chest diseases	26	13.4
	Neurology	20	10.3
	Dermatology	15	7.7
Time since diagnosis	0-1 year	96	49.5
	2-3 years	35	18.0
	4-5 years	22	11.3
	6-7 years	7	3.6
	8 years	34	17.5
Number of hospitalizations in the last year	First hospitalization	35	18.0
	1	74	38.1
	2	47	24.2
	3	22	11.3
	4	8	4.1
	5	8	4.1

SD: Standard deviation

Table 2. The relationships of the demographic characteristics and disease-related information of the patients with the health literacy scale points

Health literacy		Access to information		Understanding information		Evaluation		Application	
Age		**-0.286***		**-0.314***		-0.065		-0.116	
Gender	Female	19.16±6.25		11.49±6.85		11.21±4.30		9.04±4.13	
	Male	19.13±5.76		13.23±7.18		10.99±3.99		8.85±4.20	
	t p	0.041	0.97	-1.724	0.09	0.374	0.71	0.314	0.75
Marital status	Married	19.30±6.33		12.27±7.32		11.34±4.16		8.87±4.41	
	Single	18.71±5.20		12.25±6.60		10.66±4.08		8.97±3.73	
	Divorced	19.70±6.62		13.80±6.68		10.80±4.49		9.80±3.43	
	F p	0.239	0.788	0.223	0.801	0.558	0.573	0.230	0.795
Education level	Primary school	18.40±6.44		10.31±6.53		11.31±4.24		8.81±4.32	
	High school	20.49±4.23		16.67±6.78		10.91±3.73		9.23±4.06	
	Further education	20.41±5.90		14.78±5.98		10.48±4.35		9.11±3.63	
	F p	2.670	0.72	17.382	**0.000***	0.500	0.608	0.184	0.832
Occupation	Unemployed	18.44±6.67		9.76±6.26		11.64±4.29		9.23±4.40	
	Manual worker	19.22±6.82		12.19±6.87		9.07±4.85		9.04±4.23	
	Clerical worker	20.85±3.45		13.70±7.04		11.50±2.65		8.25±4.42	
	Retired	19.82±4.32		14.06±6.81		11.24±3.60		7.91±3.04	
	Self-employed	18.97±6.33		15.32±7.38		11.16±4.15		9.63±4.31	
	F p	0.777	0.54	5.339	**0.000***	2.036	0.09	1.015	0.401
Clinic in which hospitalized	Internal	17.43±6.52		24.74±7.95		28.84±9.47		18.81±6.13	
	Nephrology/endocrine	17.82±7.50		24.96±8.53		29.36±12.15		19.07±7.76	
	Cardiology	18.05±3.84		24.73±2.73		27.86±3.50		19.81±1.59	
	Onco-hemato	19.15±5.29		24.85±7.44		31.08±8.29		19.62±5.19	
	Chest diseases	16.23±6.38		22.46±8.18		27.42±10.37		18.00±6.25	
	Neurology	18.80±7.30		26.60±9.20		30.35±10.38		19.40±7.34	
	Dermatology	19.73±6.96		27.13±8.74		31.60±9.97		22.00±3.57	
	F p	0.698	0.652	0.764	5.83	0.518	0.794	0.774	0.591
Time since diagnosis	0-1 year	18.79±6.01		26.27±6.78		30.29±8.32		19.79±5.25	
	2-3 years	18.54±6.50		24.60±8.48		28.86±10.14		18.06±6.79	
	4-5 years	16.41±7.22		22.82±9.48		26.32±11.81		18.50±7.08	
	6-7 years	15.86±7.93		23.29±10.50		24.71±10.53		16.14±8.17	
	8 years	15.71±6.31		22.74±7.72		28.88±10.38		19.47±5.90	
	F p	2.048	0.09	1.901	0.11	1.220	0.30	1.096	0.36
Number of hospitalizations in the last year	First hospitalization	20.83±5.63		29.71±5.32		33.94±6.57		21.57±4.54	
	1	17.84±6.09		24.41±7.77		28.49±9.22		19.08±5.70	
	2	16.74±6.57		23.48±7.77		28.64±9.66		18.55±5.93	
	3	15.32±6.96		21.18±8.39		24.86±11.09		17.18±7.58	
	4	17.50±7.98		23.25±9.05		27.13±12.09		17.13±6.66	
	5	18.25±5.85		27.75±6.23		30.75±10.63		20.00±7.46	
	F p	2.573	**0.03***	4.769	**0.00***	3.002	**0.012***	1.972	0.08

*p<0.05

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patients in the other internal disease clinics, but the difference was not statistically significant.

When the relationship was examined between health literacy and the time since diagnosis and the number of hospitalizations within the last year, the health literacy subscale points were determined to be higher for those in the first year of diagnosis and in the first hospitalization, but not at a statistically significant level. A statistically significant difference was determined between the first hospitalization and seeking health literacy information (20.83±5.63, 0.03*), understanding information (29.71±5.32, 0.00*), and evaluation (33.94±6.57, 0.012*) (Table 3).

The relationships were examined between the demographic characteristics of the patients and the subscales of the health-seeking behaviour scale.

A statistically significant negative correlation was determined between age and online (-0.363*), professional (-0.339*), and traditional (-0.324*) health-seeking behaviors.

The traditional health-seeking behavior of males and females was seen to be similar, and the online and professional health-seeking behaviors of males were determined to be higher than those of females, but not at a statistically significant level.

According to marital status, the online and professional health-seeking behaviors were determined to be higher than those of the single and married patients, and the traditional health-seeking behavior of married patients was higher, but the differences were not statistically significant.

When education level was evaluated, the online (16.64±6.57, 0.002*), professional (23.14±8.41, 0.000*), and traditional (27.53±10.26, 0.007*) health-seeking behavior points of the patients with a primary school level of education were determined to be statistically significantly low.

No statistically significant difference was determined in the health-seeking behaviors according to occupation, but the points in all subscales were lower in the unemployed group.

The relationships were examined between the clinics in which the patients were hospitalized and the health-seeking behaviors. The online health-seeking behavior points were determined to be the lowest in the patients hospitalized in the cardiology and chest diseases clinics and highest in the dermatology clinic (0.004*), and the difference was statistically significant. The professional and traditional health-seeking behavior was higher but not statistically significant in the patients hospitalized in the dermatology clinic. No statistically significant difference was determined in health-seeking behavior according to the time since diagnosis and number of hospitalizations. No direct or inverse increase or decrease was observed proportional to the time since diagnosis or the number of hospitalizations.

Discussion

Health literacy has become more important in the healthcare agenda both in European countries and in Turkey with the understanding of the inclusion of the role and responsibilities in individual health and the healthcare sector, and this has increased interest in the concept of health literacy. In nationwide studies of health literacy in European countries, it has been reported that of 9007 (57.3%) respondents to a health literacy questionnaire, approximately 4 of every 10 respondents had experienced difficulties in accessing, understanding, evaluating, and applying health information [7].

In the Health Literacy Level and Related Factors Research conducted in 2018 by the Ministry of Health General Directorate for Health Development in Turkey, it was reported that 7 of every 10 individuals had a health literacy level that was insufficient or borderline [8].

In many studies on health literacy, as in the current study, a negative relationship has been reported between age and health literacy, and it has been stated that the level of education and socioeconomic status are the most significant determinants of the health literacy level [9]. When studies conducted after 2020 were examined, it was seen that in a study in Germany of 2151 participants aged >18 years, the health literacy of those aged ≥76 years was low, and a low level of health literacy was associated with a low level of education and low socioeconomic status [10]. Similarly, in a study in Vietnam of 300 individuals aged >55 years, a negative correlation was determined between age and health literacy [11].

In studies that have investigated health literacy and education and occupation, a strong correlation has been reported. In a study conducted with 2433 participants, low health literacy was associated with a lower level of education and low socioeconomic status, and individuals who completed further education were found to have a higher probability of a healthy life compared with those with a low level of education, and low socioeconomic status was associated with lower life expectancy and higher morbidity [12,13,14,15,16]. In the current study, the level of education and occupation were determined to be positively correlated with health literacy, and with health-seeking behavior. Another study in the literature, which included 423 individuals evaluated health literacy in terms of e-health, and reported that further

Table 3. The relationships of the demographic characteristics and disease-related information of the patients with the health seeking behaviour scale points

		Online health-seeking behavior		Professional health-seeking behavior		Traditional health-seeking behavior	
Age		-0.363*		-0.339*		-0.324*	
Gender	Female	17.52±6.67		24.67±8.17		29.18±10.03	
	Male	18.16±6.19		25.04±7.47		29.08±9.11	
	F p	-0.695	0.49	-0.334	0.74	0.071	0.94
Marital status	Married	17.58±6.59		12.27±7.32		11.34±4.16	
	Single	18.10±6.10		12.25±6.60		10.66±4.08	
	Divorced	19.30±6.75		13.80±6.68		10.80±4.49	
	F p	0.403	0.669	0.572	0.565	0.447	0.640
Education level	Primary school	16.64±6.57		23.14±8.41		27.53±10.26	
	High school	20.47±4.90		27.65±5.20		32.14±6.45	
	Further education	19.11±6.64		28.26±5.98		31.70±8.93	
	F p	6.647	0.002*	8.988	0.000*	5.035	0.007*
Occupation	Unemployed	16.37±6.93		23.11±8.51		27.56±10.66	
	Manual worker	19.19±6.42		24.96±8.51		29.37±10.28	
	Clerical worker	18.50±5.75		27.80±4.53		31.90±6.14	
	Retired	18.15±5.91		26.47±6.27		29.50±7.44	
	Self-employed	19.11±5.91		25.21±8.00		30.29±9.83	
	F p	1.736	0.14	2.078	0.09	1.082	0.37
Clinic in which hospitalized	Internal	10.41±5.84		11.01±4.18		8.47±4.11	
	Nephrology/endocrine	14.57±5.52		11.57±4.38		9.68±4.21	
	Cardiology	10.27±6.80		11.82±2.32		8.91±4.05	
	Onco-hemato	15.62±8.23		10.92±4.05		9.54±3.97	
	Chest diseases	11.77±7.76		10.69±4.48		8.23±4.09	
	Neurology	14.00±6.46		9.70±4.80		9.15±3.82	
	Dermatology	16.20±7.08		12.33±4.20		10.33±5.22	
	F p	3.305	0.004*	0.820	0.555	0.751	0.609
Time since diagnosis	0-1 year	12.51±7.04		11.50±3.97		9.00±4.24	
	2-3 years	13.60±7.98		10.46±4.46		9.03±4.19	
	4-5 years	11.73±6.37		11.09±4.36		8.23±4.01	
	6-7 years	13.00±6.35		9.71±4.50		9.71±4.79	
	8 years	10.85±6.70		10.94±4.16		9.03±4.04	
	F p	0.576	0.58	0.635	0.64	0.232	0.92
Number of hospitalizations in the last year	First hospitalization	13.54±7.13		12.03±4.27		9.46±4.23	
	1	11.45±6.89		11.03±3.99		8.43±4.23	
	2	13.30±7.19		11.11±4.01		9.96±3.85	
	3	12.36±7.29		11.05±4.04		8.82±4.15	
	4	9.50±6.21		9.13±5.00		6.75±4.43	
	5	12.63±7.67		9.88±5.30		8.13±4.02	
	F p	0.499	0.50	0.859	0.51	1.418	0.22

*p<0.05

education, working as a civil servant, and high income had a positive effect on e-health literacy (17,18).

Previous studies conducted with patients have shown that patients with chronic disorders have a lower level of health literacy, and patients with cardiovascular and chest diseases in particular have more problems in understanding health information (19,20,21). Although there was no statistically significant difference between the clinics with respect to health literacy levels in the current study, as only patients in internal disease clinics were included, the health-seeking behavior points of patients hospitalized in the cardiology and chest diseases clinics were found to be low.

Patients with chronic diseases need health literacy beshouldhey need to understand more health information and read prescriptions accurately, and low health literacy is associated with poor control of chronic diseases, presentation at the emergency department, hospitalization, and increased mortality (10,22,23). In the current study, a negative correlation was determined between the health literacy level and the number of hospitalizations in the last year.

Conclusion

Although few, previous studies related to health literacy and chronic diseases have shown a relationship between the level of health literacy and the presence of a chronic disease, time since diagnosis, and the number of hospitalizations. It can be considered that studies related to the health literacy of patients with a chronic disease will be an important source to be able to provide disease management, quality of life, and a disability-free life.

Ethics

Ethics Committee Approval: Ethics Committee of University of Health Sciences Turkey, Umraniye Training and Research Hospital (decision no: 1741, dated: 11.01.2021).

Informed Consent: Written informed consent for participation in the study was obtained from all patients.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: F.A., A.Ö., Concept: F.A., A.Ö., Design: F.A., A.Ö., Data Collection or Processing: F.A., Analysis or Interpretation: F.A., Literature Search: F.A., A.Ö., Writing: F.A., A.Ö.

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