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Determination of chronic illness care and healthy lifestyles of patients hospitalized in internal medicine clinics

Dahili kliniklerde yatan hastaların kronik hastalık bakımı ve sağlıklı yaşam biçimlerinin belirlenmesi

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Abstract

Aim: This study aimed to determine the chronic disease care and healthy lifestyles of patients hospitalized in internal medicine clinics.

Materials and Methods: A descriptive and cross-sectional study was conducted from May 1 to August 31, 2019. The study population consisted of 207 patients with chronic diseases.

Results: It was found that there was a statistically significant, and positively significant relationship was found between the chronic disease care assessment scale and the healthy lifestyle behaviors scale of the patients included in the study.

Conclusion: Positive association was detected between care satisfaction and healthy lifestyle behaviours of individuals with chronic disease. It may be recommended to provide training that supports the healthy lifestyles of these individuals who have to live with chronic diseases.

Keywords: Chronic illness; Healthy life; Internal clinic.

Öz

Amaç: Bu çalışma, dahili kliniklerde yatan hastaların kronik hastalık bakımı ve sağlıklı yaşam biçimlerinin belirlenmesi amacıyla yapıldı.

Gereç ve Yöntem: Tanımlayıcı ve kesitsel olarak yapılan çalışma, Mayıs–Ağustos 2019 tarihleri arasında yürütülmüştür. Çalışmanın örneklemini ise kronik hastalığı olan 207 hasta oluşturdu.

Bulgular: Çalışmaya dahil edilen hastaların kronik hastalık bakımını değerlendirme ölçeği ile sağlıklı yaşam biçimi davranışları ölçeği arasında istatistiksel olarak önemli, pozitif yönde anlamlı bir ilişki olduğu saptandı.

Sonuç: Kronik hastalığı olan bireylerin bakım memnuniyetleri ve sağlıklı yaşam biçimi davranışları arasında pozitif bir ilişki olduğu saptandı. Kronik hastalıkla yaşamak zorunda olan bu bireylerin sağlıklı yaşam biçimlerini destekleyici eğitimler verilmesi önerilmektedir.

Anahtar Kelimeler: Kronik hastalık; Sağlıklı yaşam; Dahili klinik.

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Introduction

Chronic diseases (CI) are those that involve a long life span, require continuous medical care and treatment, are slow and progressive, and cause irreversible changes in normal physiological functions.[1] In western countries, chronic CI is rapidly growing and it is associated with increased number of days in the intensive care unit (ICU), prolonged hospitalization in post-acute(weaning) centers, and poor prognosis in the long term, which is also valid for our country.[2]

The factors causing increase in the incidence and prevalence of chronic illnesses are listed as the aging world population, stressors caused by rapid urbanization and decrease in physical activity with developing technology and changes in lifestyle such as changes in dietary habits.[3]

Although a great number of diseases such as cardiovascular diseases, diabetes, obesity, some cancers and chronic respiratory system diseases are among chronic illness group, most of them have common risk factors and prevention strategies.[4] According to WHO, health systems which are structured to provide mainly acute care services in chronic health problems are insufficient. More focus is placed on acute health problems than protective and preventive health services in the world and treatment services are mostly conducted through medication and technological interventions.[5] Similarly, health system also focuses on treatment services in Turkey. Chronic diseases can be controlled significantly with programs targeting good health by focusing on protection measures and controlling risk factors.[2] The most important characteristic of chronic illnesses is that a great number of underlying reasons except for some irreversible reasons such as family history and genetic background are completely preventable risk factors. Behavioural risk factors such as tobacco use, immobility and unhealthy diet are responsible for the occurrence of coronary heart disease and cerebrovascular diseases with a rate of 80%.[3]

Today, it is known that morbidity and mortality in chronic illnesses such as cardiovascular diseases, cancer, heart diseases, hypertension and diabetes can be decreased significantly with changes in lifestyle.[6] In this context, it is important for individuals with chronic illness to adopt healthy lifestyle behaviours from the moment they are diagnosed. Healthy lifestyle behaviours are defined as behaviours which serve individuals to maintain and increase their levels of well-being. These behaviours include having a sufficient and balanced diet, not smoking, stress management, regular physical activity, effective spiritual development, positive interpersonal relationships and taking responsibility to maintain and develop health.[7]

Among the health team, nurses have important responsibilities such as creating awareness in society about the prevention of cardiovascular and other chronic illnesses, delaying the occurrence of the disease in risky individuals and decreasing possible complications and educating individuals, introducing them with healthy lifestyle habits and consulting them to adopt to treatment when they get ill.[8]

In the management of chronic illness, it is important to adopt healthy lifestyle behaviours, to control all behaviours that can influence the individual's health and to adopt daily activities according to the individual's health status.[9] In this respect, it is thought that the present study would be a guide in planning and preparing a content for trainings and health practices to be conducted to inform individuals with chronic illness about the risk factors and the complications that may develop as a result of the illness and to prevent these complications. It is also thought that all these outcomes will contribute to the nursing care provided to individuals.

Materials and Methods

Study design and sampling

This descriptive and cross-sectional study was conducted to determine the chronic illness care and health lifestyles of patients hospitalized in internal medicine clinics.

Population and sample of the study

The population of the study consisted of 300 patients hospitalized in the internal clinics of a university hospital between May and August 2019.

The study sample consisted of 207 hospitalized patients with chronic diseases like respiratory system, diabetes, cardiovascular system treated in Internal Medicine Department of University from May 1 to August 31, 2019.

All patients were ≥18 years old, and had no audial, visual and mental problems, volunteered to participate in the study and who had the cognitive competence to answer the questions.

17 patients in the hospital did not want to participate in the study, and 14 patients did not meet the research criteria. In the power analysis performed to determine the adequacy of the sample size, it was determined that the effect size was 2.25 (high level) and the power was 0.99 at the 95% confidence interval at the 0.05 significance level. These values show that the sample size is at the desired level.

Data collection tools

The data were collected by the researchers through face-to-face interview technique by using "Descriptive Information Form", "Patient Assessment of Chronic Illness Care" and "Healthy Lifestyle Behaviour Scale".

Descriptive information form: This form, consisting of 13 questions about the socio-demographic characteristics of individuals, was prepared using the relevant literature and studies.

Patient assessment of chronic illness care (PACIC): Turkish validity and reliability of the scale which was developed by Glasgow et al based on the Chronic Care Model of Wagner, was conducted by İncirkuş and Nahcivan.[10,11] It is an easily applicable short instrument allowing patients to assess the health care services and at the same time which provides information about the quality of care services given. It is a Likert type scale with 20 items and it includes five sub-dimensions as patient activation (questions 1-3), decision support (questions 4-6), goal setting (questions 7-11); problem solving (questions 12-15) and follow-up/coordination (questions 16-20). The scale is scored as "1=never, 2=rarely, 3=sometimes, 4=most of the time and 5=always". The total score of the scale is calculated from the average score of all 20 questions. Increased scale scores show that individual with chronic illness have high level of satisfaction from the care they receive and that chronic illness management is sufficient.[11] According to the Turkish validity and reliability study of the scale; the Cronbach Alpha value is 0.91.[11]

Healthy lifestyle behaviour scale (HLBS II): It was revised by Walker et al. and named HLBS II. [12] Validity and reliability studies of the scale were conducted by Bahar et al. [13] HLBS II is a 4-Likert type scale with 52 items and options of "never", "sometimes", "frequently" and "regularly". The scale consists of six sub-dimensions titled "health responsibility", "physical activity", "nutrition", "spiritual development", "interpersonal relations" and "stress management". The lowest score one can get from the scale is 52, while the highest score is 208. As the total score increases, it is accepted that the patient has healthier lifestyle behaviours. Chronbach Alpha value for HLBS II total scale is 0.92.[13]

Assessment of data

Descriptive statistics in the study were given as numbers, percentage, arithmetic mean and standard deviation. Independent Correlation Coefficient was used to assess the data obtained. SPSS 25 program was used for statistical analyses and level of significance was taken as 0,05 (p-value) in statistical analyses.

Ethical principles of the study

Approval was taken from the Ethical Board of the State University the study was conducted in (21/05/2019 date and 2019/03-01 number) and written permission was taken from University. In addition, written and oral consent was taken from the individuals participating the study after the purpose of the study was explained. Written permission was obtained from the authors who conducted the Turkish validity and reliability of the study.

The study was conducted in accordance with the Helsinki declaration principles.

Results

It was found that of the 207 individuals included in the study, 45.41% were female; 37.68% were illiterate; 69.57% were married and 84.06 were not working. It was also found that 36.71% were living in village and 44.93% had low level of income. Table 1 demonstrates demographic and chronic illness related information of the patients included in the study.

Table 1. Demographic information of patients included in the study.

		n (%)
Age	18-44 years	100 (48.31)
	≥45 years	107 (51.69)
Gender	Female	94 (45.41)
	Male	113 (54.59)
Level of education	Illiterate	78 (37.68)
	Primary	78 (37.68)
	High School	32 (15.46)
	Undergraduate and higher	19 (9.18)
Marital status	Married	144 (69.57)
	Single	63 (30.43)
Employment	Employed	33 (15.94)
	Unemployed	174 (84.06)
Social security	Yes	108 (52.17)
	No	99 (47.83)
Level of income	Low	93 (44.93)
	Moderate	114 (55.07)
Place of residence	Village	76 (36.71)
	Town	60 (28.99)
	City	71 (34.3)
Treatment unit	Internal medicine (DM, Cancer GİS)	76 (36.71)
	Cardiology	18 (8.7)
	Neurology	20 (9.66)
	Chest Diseases	27 (13.04)
	Other units (Infectious Diseases, Dermatology, Physical Therapy and Rehabilitation Center)	66 (31.88)
Length of hospital stay	1-29 days	170 (82.13)
	≥30 days	37 (17.87)
Chronic illness	Respiratory system	80 (38.65)
	Diabetes	36 (17.39)
	Cardiovascular system	41 (19.81)
	Cancer	9 (4.35)
	GİS	41 (19.81)
Individual opinion about personal health	Perfect	4 (1.93)
	Very good	7 (3.38)
	Good	73 (35.27)
	Not bad	86 (41.55)
	Bad	37 (17.87)
State of smoking	Yes	41 (19.81)
	No	128 (61.84)
	Quit	38 (18.36)

In this study, the distribution of scores taken from PACIC was not given in any table; however, average score was found to be 2.94±0.49. Average scores taken from patient activation sub-dimension was 3.32±0.84; average score taken from decision support sub-dimension was 2.65±0.66; average score taken from goal setting sub-dimension was 2.67±0.62; average score taken from problem solving sub-dimension was 3.40±0.77; while average score taken from follow-up and coordination sub-dimension was 2.78±0.56 In

this study, Cronbach Alpha value was calculated as 0.82. (Table 2).

In the study, general total score from HLSBS-II was found to be 122.87±14.38. Also, Cronbach Alpha value was calculated as 0.85.The total score taken from health responsibility sub-dimension was 22.14±3.49; the total score taken from physical activity sub-dimension was 15.16±3.02; the total score taken from nutrition sub-dimension was 20.24±3.07; the total score taken from spiritual development sub-dimension was 24.31±3.96; the total score taken from interpersonal relationships sub-dimension was 22.56±3.69 and the total score taken from stress management sub-dimension was 18.45±3.56 (Table 2).

Table 2. Mean scores of HLSBS-II *, PACIC ** total and sub-dimensions score.

HLSBS-II Scale	Mean ± SD	PACIC Scale	Mean ± SD
Health responsibility	22.14±3.49	Patient activation	3.32±0.84
Physical activity	15.16±3.02	Decision making support	2.65±0.66
Nutrition	20.24±3.07	Goal setting/ tailoring	2.67±0.62
Spiritual development	24.31±3.96	Problem solving	3.40±0.77
Interpersonal relationships	22.56±3.69	Follow-up/coordination	2.78±0.56
Stress management	18.45±3.56.		
Total	122.87±14.38		2.94±0.49

* HLSBS-II: Healthy Lifestyle Behaviour Scale, PACIC: Patient Assessment of Chronic Illness Care

Statistically significant difference was found the patients' PACIC total score averages of the patients who had an educational status of undergraduate and higher were found to be significantly higher when compared to those having "primary education" as educational status (p=0.016). Patient activation score averages of patients having hospital stay periods of 1-29 days were significantly higher compared to those of patients who had ≥30 days of hospital stay (p=0.010). Goal setting/tailoring score averages of the patients in chest diseases, internal diseases and neurology units were significantly higher than those of the patients treated in other units (p=0.016). Problem solving average scores of male patients were significantly higher when compared with those of female patients (p=0.041). Similarly, it was concluded that problem solving average scores of the patients with an educational status of undergraduate and higher (p=0.034). Follow-up/ coordination average scores of the patients with an educational status of undergraduate and higher were significantly higher when compared to those with an educational status of high school (p=0.008) (Table 3).

Statistically significant difference were found HLBS-II total score averages of the patients who were ≥45 years old (p=0.008), employed (p=0.007), treated in cardiology units (p=0.020), and those who assessed their general health condition as perfect (p=0.024). Statistically significant difference was found health responsibility average scores of the patients between 18 and 44 years of age (p=0.015). Spiritual development average scores of the patients who were employed were significantly higher than those who were not employed (p=0.019). Interpersonal relationships average scores of the patients who were between 18 and 44 years of age were significantly higher than those who were 45 years and older (p=0.030). In addition, interpersonal relationships average scores of patients who were high school graduates (p=0.008) and who were employed (p=0.005) were significantly higher. Stress management average scores of the patients who were employed were significantly higher than those of the patients who were unemployed (p=0.004) (Table 3). Similarly, stress management average scores of the patients who had moderate level of income (p=0.040), who were treated in cardiology unit (p=0.009) or those having a hospital stay between 1

to 29 days (p=0.017) were significantly higher (Table 4). There was no statistically significant relationship between other sociodemographic characteristics and HLBS-II and sub-dimensions.

Table 3. Comparison of PACIC total and sub-dimension scores in terms of the demographic characteristics of the patients included in the study.

		PACIC Total	Patient Activation	Decision Making Support	Goal Setting/ Tailoring	Problem Solving	Follow-up/ Coordination
Age	18-44 years	2.97±0.42	3.39±0.71	2.7±0.66	2.71±0.59	3.44±0.78	2.75±0.56
	≥45 years	2.91±0.54	3.25±0.94	2.61±0.66	2.63±0.64	3.36±0.76	2.81±0.56
	p	0.582	0.414	0.140	0.419	0.903	0.536
Gender	Female	2.9±0.49	3.25±0.85	2.66±0.65	2.66±0.62	3.3±0.8	2.76±0.59
	Male	2.97±0.48	3.38±0.82	2.65±0.67	2.68±0.62	3.48±0.74	2.79±0.54
	p	0.270	0.407	0.424	0.995	[a] **0.041**	0.674
Level of education	Illiterate	2.97±0.49	3.37±0.86	2.63±0.63	2.64±0.62	3.43±0.65	2.91±0.51
	Primary	2.84±0.47	3.23±0.82	2.63±0.66	2.6±0.6	3.22±0.78	2.66±0.58
	High school	2.96±0.51	3.36±0.85	2.67±0.67	2.75±0.57	3.55±0.92	2.63±0.56
	Undergraduate and higher	3.15±0.41	3.44±0.82	2.81±0.81	2.92±0.68	3.71±0.79	2.97±0.55
	p	[b] **0.016**	0.560	0.952	0.295	[b] **0.034**	[b] **0.008**
Marital status	Married	2.91±0.51	3.26±0.91	2.65±0.69	2.66±0.63	3.34±0.78	2.77±0.59
	Single	3±0.41	3.47±0.63	2.66±0.58	2.7±0.58	3.54±0.72	2.81±0.49
	p	0.311	0.241	0.993	0.916	0.053	0.582
Employment	Employed	3.05±0.42	3.52±0.69	2.74±0.7	2.79±0.65	3.6±0.72	2.78±0.56
	Unemployed	2.92±0.49	3.28±0.86	2.64±0.65	2.65±0.61	3.36±0.77	2.78±0.56
	p	0.131	0.213	0.645	0.329	0.134	0.744
Level of income	Low	2.88±0.47	3.21±0.85	2.61±0.58	2.63±0.61	3.31±0.74	2.77±0.54
	Moderate	2.98±0.49	3.41±0.82	2.69±0.72	2.7±0.62	3.47±0.78	2.78±0.58
	p	0.370	0.169	0.967	0.669	0.230	0.806
Treatment unit	Internal medicine	2.97±0.37	3.37±0.72	2.64±0.62	2.74±0.53	3.35±0.76	2.86±0.44
	Cardiology	2.99±0.44	3.35±0.8	2.74±0.54	2.64±0.68	3.58±0.65	2.78±0.54
	Neurology	2.99±0.6	3.47±0.95	2.88±0.82	2.85±0.85	3.25±0.82	2.69±0.69
	Chest diseases	2.91±0.49	3.2±0.9	2.62±0.71	2.73±0.51	3.31±0.72	2.78±0.69
	Other	2.88±0.58	3.25±0.92	2.59±0.66	2.52±0.63	3.48±0.81	2.71±0.6
	p	0.820	0.597	0.558	[b] **0.016**	0.329	0.719
Length of hospital stay	1-29 days	2.96±0.46	3.39±0.8	2.68±0.62	2.69±0.6	3.4±0.77	2.78±0.55
	≥30 days	2.84±0.58	2.97±0.94	2.53±0.8	2.56±0.69	3.41±0.76	2.76±0.63
	p	0.480	[a] **0.010**	0.089	0.227	0.746	0.929
Chronic illness	Respiratory system	2.89±0.49	3.24±0.86	2.68±0.67	2.69±0.62	3.27±0.84	2.71±0.59
	Diabetes	3.03±0.46	3.41±0.82	2.73±0.75	2.69±0.62	3.64±0.61	2.83±0.58
	Cardiovascular system	2.95±0.48	3.32±0.81	2.63±0.66	2.76±0.59	3.44±0.75	2.73±0.52
	Cancer	2.75±0.96	3±1.4	2.7±1.09	2.47±1.12	3±1.12	2.71±0.79
	GIS	2.97±0.35	3.46±0.68	2.54±0.41	2.57±0.47	3.48±0.6	2.93±0.45
	p	0.651	0.583	0.670	0.495	0.111	0.211

Descriptive statistics were given as average ± standard deviation. a. $p<0.05$ and Mann-Whitney U test were used. b. $p<0.05$ and Kruskal-Wallis H test were used.

Table 4. Comparison of total score and sub-dimension scores of HLBS-II in patients included in the study in terms of demographic characteristics.

		HLBS Total	Health Responsibility	Physical Activity	Nutrition	Spiritual Development	Interpersonal Relationships	Stress Management
Age	18-44 years	125.19±13.82	22.8±3.07	15.44±2.88	20.38±2.92	24.81±3.35	23.13±3.44	18.63±3.67
	≥45 years	120.7±14.62	21.53±3.75	14.91±3.14	20.11±3.22	23.84±4.43	22.02±3.85	18.29±3.47
	p	[a] **0.008**	[a] **0.015**	0.205	0.436	0.076	[c] **0.030**	0.374
Gender	Female	123.72±17.08	22.47±3.73	15.47±3.21	20.31±3.21	24.37±4.47	22.34±3.96	18.77±4.09
	Male	122.16±11.71	21.88±3.27	14.91±2.85	20.19±2.97	24.26±3.5	22.73±3.46	18.19±3.05
	p	0.439	0.248	0.187	0.934	0.838	0.446	0.647
Level of education	Illiterate	121.03±15.93	21.5±3.82	15.13±3.18	20.26±3.28	24.13±4.5	21.67±3.87	18.35±3.6
	Primary	121.69±12.97	21.99±3.42	14.96±2.95	19.94±2.99	24±3.75	22.59±3.3	18.22±3.52
	High school	127.34±12.95	23.59±2.73	15±2.9	20.63±2.43	24.97±3.42	24.22±3.26	18.94±3.73
	Undergraduate and higher	127.74±13.87	23±2.73	16.42±2.76	20.79±3.54	25.21±3.26	23.26±4.23	19.05±3.41
	p	[b] **0.028**	0.077	0.291	0.472	0.477	[d] **0.008**	0.472
Marital status	Married	123.76±16	22.01±3.9	15.3±3.32	20.51±3.41	24.31±4.26	22.82±3.81	18.81±3.85
	Single	120.84±9.52	22.46±2.28	14.86±2.18	19.62±2.02	24.3±3.22	21.95±3.36	17.65±2.66
	p	0.679	0.653	0.259	0.166	0.984	0.120	0.086
Employment status	Employed	129.55±13.96	23.42±2.85	15.67±3.54	20.45±3.26	25.79±3.04	24.21±3.24	20±3.87
	Unemployed	121.6±14.15	21.9±3.55	15.07±2.91	20.2±3.04	24.03±4.06	22.24±3.7	18.16±3.43
	p	[a] **0.007**	0.083	0.298	0.988	[c] **0.019**	[c] **0.005**	[a] **0.004**
Level of income	Low	121.49±14.16	21.66±3.44	15.02±2.74	20.24±3.08	24.02±4.36	22.49±3.6	18.06±3.6
	Moderate	123.99±14.52	22.54±3.48	15.28±3.24	20.25±3.08	24.54±3.61	22.61±3.78	18.77±3.51
	p	0.177	0.076	0.540	0.854	0.356	0.831	[a] **0.040**
Unit of treatment	Internal medicine	125.93±15.27	22.38±3.32	15.74±2.99	20.84±3.31	24.88±3.87	23.01±3.38	19.08±3.76
	Cardiology	126.39±12.3	24.17±3.09	15.56±2.75	19.78±2.05	24.89±4.01	22.72±2.95	19.28±3.18
	Neurology	124.25±14.26	22.05±3.27	15.3±3.44	20.8±3.38	24.2±4.73	22.75±3.67	19.15±4.69
	Chest diseases	116.67±15.14	20.89±3.38	14.22±3.65	20.15±2.4	23.07±4.11	21.26±4.38	17.07±3.02
	Other	120.5±12.62	21.86±3.7	14.74±2.62	19.55±3.07	24.03±3.71	22.45±3.9	17.86±3.03
	p	[b] **0.020**	[b] **0.020**	0.135	0.102	0.295	0.328	[b] **0.009**
Length of hospital stay	1-29 days	124.01±14.58	22.48±3.4	15.28±2.99	20.25±3	24.54±4.04	22.75±3.72	18.72±3.73
	≥30 days	117.65±12.3	20.62±3.51	14.65±3.13	20.22±3.42	23.27±3.45	21.68±3.47	17.22±2.3
	p	[a] **0.009**	[a] **0.003**	0.253	0.998	0.078	0.110	[a] **0.017**
Chronic illness	Respiratory system	123.03±14.95	22.05±3.45	14.98±3.15	20.63±3.03	24.23±4.03	22.53±3.89	18.63±3.76
	Diabetes	123.25±13.27	22.33±3.25	14.64±3.13	20.47±3.58	24.28±4.05	22.92±3.83	18.61±3.7
	Cardiovascular system	126.15±14.76	22.71±3.32	15.9±2.98	20.2±2.78	25.29±3.99	23.29±3.92	18.76±3.86
	Cancer	108.56±13.7	17.78±5.74	14.67±4	18±2.18	20.67±4.44	20.78±1.86	16.67±2
	GIS	122.1±12.51	22.56±2.72	15.37±2.4	19.83±2.99	24.32±3.25	21.95±3.1	18.07±2.95
	p	0.065	0.079	0.279	0.085	0.099	0.176	0.643

Descriptive statistics were given as average ± standard deviation. a. $p<0.05$ and Mann-Whitney U test was used. b. $p<0.05$ and Kruskal-Wallis H test was used. c. $p<0.05$ and Independent Samples T test was used.d. $p<0.05$ and One-Way ANOVA test was used.

As a conclusion, a statistically significant, linear and weak association was found between chronic patient care assessment scale total scores and the scores of patient activation, decision making support, goal setting/tailoring, problem solving an follow-up coordination sub-dimensions. Also a statistically significant, linear and weak association was found between healthy lifestyle behaviours scale general total scores and the scores of health responsibility, physical activity, nutrition, spiritual development and stress management sub-dimensions (Table 5).

Table 5. Correlation between scale in general and sub-dimensions of the scale.

	PACIC Total	**Patient activation**	**Decision making support**	**Goal setting/tailoring**	**Problem solving**	**Follow-up/ Coordination**
HLSBS-II Total	**0.282***	**0.238***	**0.182***	**0.370***	0.118	0.050
Health responsibility	**0.269***	**0.266***	0.126	**0.247***	**0.217***	0.118
Physical activity	**0.160***	0.122	-0.107	**0.185***	0.085	**0.188***
Nutrition	**0.165***	0.048	**0.163***	**0.326***	-0.036	0.048
Spiritual development	**0.309***	**0.273***	**0.141***	**0.202***	**0.241***	0.122
Interpersonal relationships	0.110	0.113	**0.236***	**0.212***	-0.003	-0.084
Stress management	**0.137***	0.114	**0.169***	**0.287***	-0.039	-0.070

**. p<0.05 and Spearman's correlation coefficient were used.*

Discussion

In our study evaluating a mixed patient group, PACIC score average was found 2.94±0.49. This result shows that patients included in the study had moderate level of care satisfaction and chronic illness management. When studies performed in similar patient groups were reviewed, average PACIC score was found between 2.44 and 3.17. The total average PACIC score in our study was similar to many studies in the literature, except other reports showing lower scores.[14–16]

It was determined that the highest score patients received from PACIC sub-dimensions was in "problem-solving" sub-dimension (3.40±0.77), while the lowest score was in "decision making support" sub-dimension (2.65±0.66). Unlike the results of our study, it was found in many studies that the patients got the highest score in "decision making support" sub-dimension; while the lowest score was in "follow-up/coordination" sub-dimension[17–20] This result shows that patients included in the study should be supported in terms of deciding for their self-care.

When the patients' PACIC total and sub-dimension score averages were examined in terms of their level of education, it was found that total score of the scale and the sub-dimensions of problem solving and follow-up and coordination influenced level of education significantly and average scores increased as level of education increased. Similar results were found in studies in literature analysing mixed or specific patient groups.[15,20,21] This can be related with the fact that educated individuals are better in receiving the necessary care, adaptation and self-management.

In our study, it was found that gender affected only the sub-dimension of problem solving significantly and it was found to be higher in males *($p<0.05$)*. In a study conducted with a mixed patient group. It found that gender influenced only the sub-dimension of goal setting significantly and that it was higher in males.[2] In a study conducted on Type 2 diabetes patients, found that gender influenced total scale score and it was found to be higher in males.[22] In some studies conducted, it was found that gender did not have any significant influence on PACIC total and sub-dimension score averages.[23–31]

In our study, HLBS II total score average was found as 122.87±14.38. In a study performed on patients with diabetes, found HLBS II total score average as 127.98±18.91.[7] But in another study found HLBS II total score average as 127.45±20.51 in cardiac patients.[24] Considering that the highest score one can get from HLBS II is 208, it may be suggested that the patients in the present study have moderately healthy lifestyle behaviours.

When the sub-dimensions of HLBS II were examined, it was found that the highest score averages were in spiritual development (24.31±3.36) and interpersonal relationships (22.56±3.69), followed by health responsibility (22.14±3.49), nutritional habits (20.24±3.07) and stress management (18.45±3.56). On the other hand, the lowest score average was found in physical activity sub-dimension (15.16±3.02). In literature, sub-dimension score averages from the highest to the lowest are similar to our study results.[9,25,26] In recent years, exercise has been recognized as an important intervention tool in preventing and rehabilitating chronic diseases. However, patients lead an inactive life due to the physical problems they experience.[27] These results present that the habit of doing exercise is low in our patients.

In our study, when focusing on the patients' ages and their HLBS II score averages, it was found that as age increased, interpersonal relationships, health responsibility and HLBS II total scores decreased. In a study performed in cardiac patients, found that physical activity score decreased as age increased.[24] But while another study detected that health responsibility, interpersonal relationships, physical activity, nutrition and HLBS II decreased with age in a study including nurses working in a surgical clinic.[28] This result may be due to functional impairments that occur with increasing age, as well as decreased life satisfaction due to concomitant chronic diseases and thus a decrease in quality of life.

Unlike our study, it was found that age did not influence HLBS II total score and sub-dimension score averages in a study conducted on coronary artery patients.[25] Similarly a study reported on healthy individuals.[8] This difference might be due to the mixed patient group assessed in our study. When the association between patients' level of education and their HLBS II score averages was evaluated, it was found that HLBS II total score average and interpersonal relationships score average increased as the level of education increased. In a study they conducted on colorectal cancer patients, found that as the level of education increased, patients' spiritual development increased.[29] In a study was conducted on cardiac patients, found that as the level of education increased.[4] Patients' healthy life style behaviours and quality of life increased. Our findings are parallel to the results of the studies in the literature. Therefore, it might be suggested that there is a directly proportional relationship between the level of education and teaching healthy lifestyle behaviours.

In our study, HLBS II total score, and sub-dimensions of spiritual development, interpersonal relationship and stress management were found to be higher in patients working when compared with those who were not working. In a study was detected HLBS II total score and sub-dimensions of spiritual development and physical activity to be higher in their study with heart patients.[24] It is an expected result that disease metabolic states and thus physical functional abilities of patients who are working are better since working environment provides spiritual development.[30] In addition, it was found in our study that the patients with

social security had significantly higher health responsibility when compared with those who did not have any social security. Similarly, it was found in another study that HLBS total score average and averages of sub-dimensions of health responsibility, physical activity, spiritual development and interpersonal relationships were significantly higher in women who migrated and who had social security *($p<0.05$).*[31] Similarly, it can be said that it is an expected situation for patients with social security to have high healthy lifestyle behaviours.

In our study, a significant association was found between HLBS II score averages in terms of the length of hospital stay and it was found that the patients whose length of hospital stay was 1-29 days had higher HLBS II total score and sub-dimension scores of health responsibility and stress management than those whose length of hospital stay was 30 days and longer. The results of the study show that individuals who are hospitalized for a long time do not care about healthy lifestyle behaviour.

Statistically significant and positive association was found between the chronic illness care assessment scale total score and patient activation, decision support, goal setting/tailoring, problem solving and follow-up/coordination scores of the patients included in the study and their healthy lifestyle behaviours scale total scores and health responsibility, physical activity, nutrition, spiritual development and stress management scores. In line with these findings, it can be thought that as care satisfaction of individuals with chronic illness and illness management increases, these will also cause positive changes in their healthy lifestyle behaviour.

Limitations of the study

This study is limited to patients hospitalized in internal medicine clinics of a single centre. The sample in this study reflects only one area of Turkey.

Conclusion

It was found that patients had moderate level of chronic illness care satisfaction. In addition, it was found that the highest score in the study was from problem solving sub-dimension, while the lowest score was detected in decision making support sub-dimension. It was found that patients had moderate level of healthy lifestyle behaviours and the highest score was in spiritual development sub-dimension, while the lowest score was in physical activity sub-dimension. In addition, it was determined in both scales that care satisfaction and healthy lifestyle behaviours increased when educational status increased and length of hospital stay was 1-29 days. Positive association was detected between care satisfaction and healthy lifestyle behaviours of individuals with chronic disease. In parallel with all these results, it may be suggested that the study be conducted with a larger sample group. In this case, it will be possible to provide a healthy review of the care given to the patients with chronic diseases and their results. In addition, it may be recommended to provide training that supports the healthy lifestyles of these individuals who have to live with chronic diseases.

Ethics Committee Approval

Approval was taken from the Ethical Board of the State University the study was conducted in (21/05/2019 date and 2019/03-01 number) and written permission was taken from University. The study was conducted in accordance with the Helsinki declaration principles.

Informed Consent

All participants signed the Informed Consent Form and their consent was obtained.

Author Contributions

Idea, design, collection of resources, analysis and interpretation of results and literature, written and critical: GA, GBT and ZÖ.

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Conflict of Interest

There is no conflict of interest to declare.

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Peer-review

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