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Araştırma/Research Article

Hipertansiyon Tanısı Alan Bireylerin Sağlık Okuryazarlığı ve İlaç Uyumu Öz Yeterlilik Düzeylerinin İncelenmesi

Investigation of the Health Literacy and Medication Adherence Self-Efficacy Levels of Individuals with A Diagnosis of Hypertension

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Özet:

Amaç: Çalışmanın amacı hipertansiyon tanısı olan bireylerin sağlık okuryazarlığı ile ilaca uyum öz etkililik durumlarını incelemektir.

Yöntem: Araştırma tanımlayıcı tiptedir. Araştırmanın örneklemini hipertansiyon tanısı alan 219 birey oluşturmuştur. Araştırmanın verilerinin toplanmasında Kişisel Bilgi Formu, Sağlık Okuryazarlığı Ölçeği ve İlaç Uyum Öz-Yeterlilik Ölçeği-Kısa Formu kullanılmıştır. Veriler bağımsız gruplarda t-testi, Mann Whitney U Testi, Kruskall Wallis Analizi ve Pearson Korelasyon Analizi kullanılarak analiz edilmiştir.

Bulgular: Bireylerin %22.8'inin kadın, %99.1'inin evli, %24.2'sinin bir işte çalıştığı, %73.1'inin okur-yazar olduğu belirlenmiştir. Sağlık okuryazarlığı ölçeği puan ortalaması 73.55±9.52 olarak bulunmuştur. Ayrıca İlaç Uyum Öz Yeterlilik Ölçeği-Kısa Form puan ortalaması 41.07±8.84 olarak belirlenmiştir. Sağlık Okuryazarlığı Ölçeği ile İlaç Uyum Öz-Yeterlilik Ölçeği-Kısa Formu puan ortalamaları arasında pozitif yönde, zayıf ve anlamlı bir ilişki bulunmuştur (r= 0,297, p=0,000).

Sonuç: Bireylerin sağlık okuryazarlığı ve ilaca uyum öz-yeterlilik düzeylerinin arttırılmasına yönelik çalışmaların yapılması önerilebilir.

Anahtar Kelimeler: İlaca uyum öz etkililiği; hipertansiyon; sağlık okuryazarlığı.

Abstract:

Aim: The aim of the study is to examine the health literacy and medication compliance self-efficacy levels of individuals diagnosed with hypertension.

Method: The study had a descriptive research design. The sample of the study consisted of 219 individuals with a diagnosis of hypertension. Personal Information Form, Health Literacy Scale and Medication Adherence Self-Efficacy Scale-Short Form were used to collect the data of the study. Data were analyzed using independent samples t-test, Mann Whitney U Test, Kruskal Wallis Analysis and Pearson Correlation Analysis.

Results: It was determined that 22.8% of the individuals were women, 99.1% of them were married, 24.2% of them were employed, and 73.1% of them were literate. The Health Literacy Scale mean score of the individuals was found to be 73.55±9.52. Additionally, the Medication Adherence Self-Efficacy Scale-Short Form mean score was determined as 41.07±8.84. A positive, weak, and significant correlation was found between the mean scores of Health Literacy Scale and Medication Adherence Self-Efficacy Scale-Short Form (r= .297, p=0.000).

Conclusion: It may be recommended to conduct studies to increase individuals' health literacy and medication compliance self-efficacy levels.

Key Words: Medication adherence self-efficacy; hypertension; health literacy.

Introduction

Hypertension (HT) is an important chronic disease. It is a preventable disease and treatable.[1] According to data released by the World Health Organization in 2021, an estimated 1.28 billion adults aged 30-79 worldwide have hypertension, and most of them (two-thirds) live in low- and middle-income countries.[2] According to the results of the Hypertension Prevalence Study PatenT2 study in Turkey, the prevalence of HT was found to be 30.3% in the total population over the age of 18.[3]

In the treatment of HT, both health literacy (HL) and medication compliance self-efficacy levels of individuals are very important. In health care, individuals can be expected to take roles such as taking their own health responsibilities, understanding information, and making health decisions for both themselves and others. At the core of all these are skills related to HL.[4] In individuals' access to and use of health information, HL has an important place in the management of chronic disease.[5,6] In a study, it was reported that individuals with low HL levels had lower abilities to manage chronic diseases, applied to emergency services more, and had longer hospital stays.[5] In addition, studies have presented that HL is important in the severity of the disease and in blood pressure control.[7,8]

Adherence to treatment is important because a life-long treatment process begins with the patient's diagnosis of HT.[9] In the control of HT, it is seen that patients still use non-prescribed drugs, forget to take medication, do not pay attention to the time of the medication, and miss doctor's appointments.[10] Medication adherence self-efficacy levels of individuals with a diagnosis of HT are important. The stronger the individual's beliefs about self-efficacy, the higher the probability of initiating and maintaining recommended health behaviors. [11] It has been presented that increases in self-efficacy/effectiveness in maintaining antihypertensive medication adherence are associated with compliance with the prescribed activities.[12,13]

Health literacy is effective in effective treatment of the disease and protection from complications.[14] It is also important in ensuring compliance with medication and controlling the disease.[15,16] As a result, determining HL levels and medication adherence self-efficacy levels of individuals with a diagnosis of HT is very important in planning and implementing the services to be provided. For this reason, this study was conducted to examine the HL and medication adherence self-efficacy levels of individuals with a diagnosis of HT.

Material and Methods

It is a descriptive type and was carried out in a Ertuğrul Gazi Family Health Center No.4 in Sanliurfa between October 2020 and June 2021. The population of the study consisted of 508 individuals aged 20-64 with a diagnosis of hypertension. The population in the universe consist of individuals registered to Ertuğrul Gazi Family Health Center in Sanliurfa. The sample consisted of 219 individuals. The individuals to be sampled were selected using the simple random sampling method. A sample calculation was made from a known population. The Personal Information Form, Medication Adherence Self-Efficacy Scale-Short Form (MASES-SF), and European Health Literacy Scale (HLS) were used to collect data.

Personal Information Form:

It was created by the researcher by examining the studies in the literature [17,18] and the form consisted of 24 questions.

Medication Adherence Self-Efficacy Scale-Short Form (MASES-SF):

MASES-SF was used to determine the medication adherence levels of individuals with HT. The scale was developed by Ogedegbe et al. (2003) to evaluate medication adherence in HT patients.[19] Its validity and reliability study in Turkey was established by Hacıhasanoğlu et al. in 2012. [17] The scale is in a four-point Likert type and consists of a total of 13 items. The lowest score that can be obtained from the scale is 13 points and the highest score is 52. The increase in the mean score indicates that the adherence of individuals to antihypertensive

medication treatment is at a good level. The Cronbach alpha value of the scale is .94 [14] and in this study .94 was found.

Health Literacy Scale (HLS):

The 47-item HLS in Europe was developed by Sorensen, and it was simplified by Toçi et al., its validity and reliability study was established.[20] Its validity and reliability study were conducted in Turkey in 2015 by Aras and Temel.[21] The scale is a 5-point Likert type and a minimum of 25 and a maximum of 125 points can be obtained. It consists of a total of 25 items. The questionnaire's items are positive and there are no reverse items. High scores indicate that health HL are also high. The Cronbach alpha value of the scale is .92[21] and in this study .88 was found.

The dependent variables of the study are the HLS and the MASES-SF mean scores. The independent variables of the study are demographic data (gender, marital status, educational level, social security, income level, family type) and the characteristics of the patient regarding HT (time of the diagnosis, health perceptions, the status of knowing the side effects of HT, the status of complying with the treatment recommendations regarding the disease, the status of doing exercising, smoking, the status of forgetting to take medication, the status of changing the medication doses without asking the doctor, the status of going to health checks, the status of checking blood pressure, the status of receiving education about the process of HT treatment) The data of the study were collected by face-to-face interview. Data collection forms were filled by the researcher by visiting individuals at their homes.

Data analysis was executed by utilizing the Statistical Package for Social Sciences 20.0. Normality distributions were evaluated with Kurtosis and Skewness coefficients. In the analysis of the data, Mean, number and percentage were calculated from descriptive statistics. Also independent samples t-test, Kruskal Wallis Analysis, Mann Whitney U Test, and Pearson Correlation Analysis were performed.

In order to carry out the study, permissions were obtained from a University, Clinical Research Ethics Committee (session 19 dated 11.09.2020 and decision number 01), A Provincial Health Directorate, participants, and the authors of the data collection tools.

Results

The average age of individuals 51.07±8.01 was found. It was determined that 22.8% of the individuals were women, 99.1% of them were married, 24.2% of them were employed, and 73.1% of them were literate. It was determined that 92.7% of the participants had social security, 57.1% of them had an income level of 'income is less than expenses', 70.8% of them had extended families, 34.7% of them smoked, and 11% of them did exercises.

It was determined that 59.4% of the individuals were diagnosed with HT between 1 and 5 years, 62.1% of them perceived their health at a moderate level, 61.6% of them knew the side effects of HT, and cerebral hemorrhage constituted 40.2% of the known side effects. 74.9% of the participants stated that they never forgot to take medication, 14.6% of them changed their medication dose without asking the doctor, 76.7% of them went to health check-ups when they had complaints, 55.3% of them never had their blood pressure checked, 78.1% of them did not receive education about the treatment process. It was determined that 70.8% of them partially complied with the treatment recommendations, and 48.4% of them followed the recommendations for medication treatment. In addition, it was determined that 58.9% of them stated that the illness was a disease that should be treated continuously.

The HLS mean score of the individuals was found to be 73.55 ± 9.52. Additionally, the MASES-SF mean score was determined as 41.07 ± 8.84.

Statistically significant differences were found between the marital status, employment, educational level, social security, family type and the HLS mean score ($p<0.05$). In addition, statistically significant differences were found between the gender, educational level, social security, income level, family type and the MASES-SF mean score ($p<0.05$) (Table 1).

Table 1. Comparison of the HLS-EU-Q and MASES-SF Mean Scores According to Demographic Characteristics of Individuals Diagnosed with Hypertension

Characteristics	**HLS-EU-Q Mean Scores** $\bar{X}$**±SD**	**MASES-SF Mean Scores** $\bar{X}$**±SD**
Gender		
Female	72.06±8.82	37.04±11.06
Male	74.10±9.46	42.43±7.43
Statistical Value	t=1.359 p =0.175	t=3.235 **p=0.002**
Marital status		
Married	73.48±9.25	41.12±8.67
Single	89.50±6.36	49.50±0.70
Statistical Value	U=25.500, **p=0.032**	U=55.50, p=0.070
Employment		
Employed	78.16±10.19	41.66±8.94
Unemployed	72.18±8.59	41.05±8.61
Statistical Value	t=4.211 **p=0.000**	t=.442 p=0.659
Educational Level		
Literate	72.21±8.36	40.77±8.71
Primary School	76.07±10.26	41.51±8.66
Middle School	87.85±8.93	48.57±3.69
Statistical Value	X^{2KW} =16.605, **p=0.001**	X^{2KW} =8.514, **p=0.036**
Social security		
Present	74.23±9.17	41.88±8.34
Absent	66.06±8.31	32.50±8.32
Statistical Value	U=825.50, **p=0.001**	U=650.50, **p=0.000**
Income level		
Income is more than expenses	73.05±12.43	36.47±8.46
Income is equal to expenses	75.25±9.87	41.13±9.33
Income is less than expenses	72.75±8.39	41.96±8.12
Statistical Value	X^{2KW} =2.316 p=0.314	X^{2KW} =6.990 **p=0.030**

Table 1. Comparison of the HLS-EU-Q and MASES-SF Mean Scores According to Demographic Characteristics of Individuals Diagnosed with Hypertension

Family Type		
Extended family	72.69±9.48	40.43±8.75
Nuclear family	75.92±8.64	43.06±8.24
Statistical Value	t=-2.352 **p=0.020**	t=.113 **p=0.041**
The Status of Doing Exercises		
Present	74.87±12.97	41.20±8.77
Absent	73.48±8.82	41.20±8.68
Statistical Value	U =2045.500 p=0.314	U =2322.500 p=0.952
Smoking		
Present	74.14±9.59	40.32±9.44
Absent	73.36±9.22	41.66±8.23
Statistical Value	t=.588 p=0.557	t=.-1.085 p=0.279

U=Mann Whitney U test, X^{2KW} = Kruskal Wallis Analysis, t= Independent samples t-test

A significant difference was found between the status of changing medication doses without asking the doctor and the HLS mean score ($p<0.05$). Statistically significant differences were determined between the status of complying with the recommendations for medication treatment, the status of forgetting to take medication, the status of checking blood pressure and the MASES-SF mean score ($p<0.05$). Furthermore, statistically significant differences were determined between the status of complying with the recommendations for medication treatment, the status of forgetting to take medication, the status of changing medication doses without asking the doctor, the status of checking blood pressure, the status of receiving education about the process of hypertension treatment and the MASES-SF mean score ($p<0.05$) (Table 2).

Table 2. Comparison of the HLS-EU-Q and MASES-SF Mean Scores According to Some Characteristics of Individuals Diagnosed with Hypertension

Characteristics	HLS-EU-Q Mean Scores X̄±SD	MASES-SF Mean Scores X̄±SD
Time of the Diagnosis		
Less than one year	76.64±14.10	37.88±9.98
Between 1 and 5 years	73.89±9.01	41.46±8.95
Between 6 and 10 years	72.01±8.67	40.78±8.23
11 years or more	73.88±7.92	43.88±5.43
Statistical Value	X^{2KW} =2.257 p=0.521	X^{2KW} =4.097 p=0.251
The Level of Understanding Health		
High	77.65±9.02	40.82±10.25
Moderate	72.90±8.79	40.90±8.60
Low	73.75±10.36	42.01±8.28
Statistical Value	X^{2KW} =4.757 p=0.093	X^{2KW} =.696 p=0.706
The Status of Knowing the Side Effects of Hypertension		
Present	74.31±8.58	41.48±9.16
Absent	72.53±10.40	40.73±7.85
Statistical Value	t=1.376 p=0.170	t=.622 p=0.535
The Status of Complying with the Recommendations for Medication Treatment		
Present	74.83±8.45	44.23±6.81
Partially	72.59±9.20	38.56±9.17
Absent	70.25±26.19	32.50±11.61
Statistical Value	KW=5.964 p=0. 051	KW=26.632 **p=0. 000**
The Status of Forgetting to Take Medication		
Never	74.25±9.20	43.20±7.36
Once a day	71.18±11.32	31.63±8.72
Once a week	71.93±9.25	36.11±9.65
Statistical Value	X^{2KW} =3.325 p=0.190	X^{2KW} =35.642 **p=0. 000**

Table 2. Comparison of the HLS-EU-Q and MASES-SF Mean Scores According to Some Characteristics of Individuals Diagnosed with Hypertension

The Status of Changing Medication Doses without Asking the Doctor		
Present	70.00±12.05	30.09±9.70
Absent	74.25±8.68	43.10±6.90
Statistical Value	t=-2.407 **p=0.017**	t=-7.270 **p=0. 000**
The Status of Going to Health Checks		
Once in every 0-3 months	70.00±8.20	41.07±6.22
once in every 4-6 months	71.70±9.05	41.50±6.96
Once a year	77.92±15.62	38.57±9.66
Whenever I have a problem.	73.83±8.69	41.38±8.99
Statistical Value	X^{2KW} =4.256 p=0.235	X^{2KW} =1.748 p=0.626
The Status of Checking Blood Pressure		
Every day	76.79±8.08	45.02±5.12
Once a week	76.33±10.49	38.50±9.62
Twice a week	74.00±8.54	45.00±7.81
Once a month	71.50±14.63	36.38±8.95
Never	72.90±8.53	40.51±9.32
Whenever I have a problem	71.68±9.26	42.40±7.24
Statistical Value	X^{2KW} =10.251 p=0.068	X^{2KW} =14.697 **p=0.012**
The Status of Receiving Education about the Process of Hypertension Treatment		
Present	74.93±9.27	43.68±7.89
Absent	73.26±9.35	40.50±8.77
Statistical Value	t=1.094 p=0.275	t=2.268 **p=0.024**

X^{2KW} = Kruskal Wallis Analysis, t= Independent samples t-test

A positive, weak, and significant correlation was found between the mean scores of HLS and MASES-SF (r= .297, p=0.000) (Table 3).

Table 3: Correlation of the HLS-EU-Q and MASES-SF Mean Scores of Individuals with a Diagnosis of Hypertension

Scales	MASES-SF	
	r	p
HLS-EU-Q	.297	0.000

Discussion

One of the important factors in disease management is health literacy.[22,23] In our study, it was found that the HLS mean score of individuals with a diagnosis of HT was not at the desired level (73.55±9.52). In the study conducted by Lor et al. on individuals with HT, it was stated that most of the participants had insufficient HL levels.[24] In the study of Yılmazel and Çetinkaya, it was found that 43.6% of hypertensive individuals had limited health literacy levels, while 74.4% had very limited HL levels.[23] In this study, the fact that the HLS mean score was not at the desired level is important in terms of showing that although the participants were literate, they did not look for accessible and reliable information sources on health literacy. As the level of education increases, individuals comprehend information about health and disease more easily and apply it in their daily lives.[25,26] In this study, the HLS mean score of the individuals who graduated from middle schools was significantly higher. Studies support this conclusion. [25,26] It is an expected result that there was a statistically significant difference between the educational level and the HLS mean score in the study. The level of education may have facilitated individuals' access to information and increased their awareness.

In our study, it was found that the HLS mean score of individuals who were employed was significantly higher. Studies support the result of this study.[22,26] The fact that the health literacy

levels of the working individuals are high suggests that the individuals in this group communicate with more individuals in their working environment and exchange more information about health due to the pandemic.

In our study, the HLS mean score of the individuals with social security was higher than those without social security. In addition, it is seen that individuals with the nuclear family type and who change their medication doses without asking the doctor had higher HLS mean scores. Having social security can be considered as a facilitating factor in accessing health services. It is an expected result that the HLS mean score of individuals with social security is higher in the study.

One or more pharmacological drug treatments may be required to manage hypertension in the long term and to prevent complications.[27] Medication adherence is important at this stage, and self-efficacy is one of the important factors that may affect adherence to treatment.[28] In our study, the MASES-SF mean score was found to be 41.07±8.84. In other studies, the MASES-SF mean scores ranged between 37.38 and 47.66. [17,29] In other studies, it was reported that the medication adherence levels of individuals with a diagnosis of HT were low.[25,30] In another study conducted on individuals with a diagnosis of HT, the level of medication adherence was found to be high.[31] Considering the lower and upper values that can be taken from the scale in this study, it can be said that medication adherence is at a good level. This situation is thought to be related to the sample group.

In the study, the MASES-SF mean score of men was found to be higher than that of women. Similar to this study, it was reported in a study that men had a high level of medication adherence.[31] In addition, unlike this study, there are studies stating that women's medication adherence levels were higher.[29,32] In this study, the low MASES-SF mean score of women may be attributed to the fact that women have more responsibilities (housework, seasonal

agricultural work, etc.) than men and cannot give priority to their health due to the cultural characteristics of the region.

In our study, the MASES-SF mean score of the individuals who graduated from middle schools was high. Similar to this study, in the studies of Hema, Padmalatha, and Ma, it was found that there was a significant difference between educational level and the MASES-SF mean score.[33,34] It is known that a high level of education increases the awareness of individuals about their diseases, and the level of education contributes to health protection and development behaviors. It is an expected result that the MASES-SF mean score of the individuals who are secondary school graduates is high in the study.

In the study, the MASES-SF mean score of individuals with the economic level of 'income is less than expenses' is higher than the other economic levels. In the study of Vawter et al., a relationship was found between income level and the MASES-SF mean score.[35] In the study of Hacıhasanoğlu-Aşılar et al. in our country, it was observed that medication adherence increased with the increase in income.[36] The higher mean score of the participants who perceived their income as good in the study suggests that they did not have difficulty in accessing the medication, and this is an expected result.

In our study, the MASES-SF mean score of individuals with nuclear families was found to be significantly higher. Similar results were found in the study of Hema and Padmalatha and Özdemir et al. [29,33] In this study, the high levels of medication adherence self-efficacy of individuals living in nuclear families can be explained by the cultural characteristics of the society.

In our study, the MASES-SF mean score of the participants who had their blood pressure checked every day was high. In the study of Teke and Arslan, similar to this study, the MASES-SF mean score was higher in individuals who had their blood pressure checked every day. [37]

These results obtained from the study are important in terms of showing the awareness of individuals about their diseases and their treatment, and it is an expected result.

In this study, the MASES-SF mean score of those who received training on the treatment process was found to be high. Other a study supports the result of this study.[38] This result obtained from the study is important in terms of showing the necessity of education.

In our study, a positive, weak, and significant correlation was found between the mean scores of HLS and MASES-SF. It was observed that as the HLS-EU-Q mean score increased, the MASES-SF mean score increased. Other a study supports the result of this study.[25] With the increase in the health literacy level of HT patients, it is expected that the ability of individuals to access, understand, and evaluate information about their disease and to use this information to improve their health would enhance. Therefore, it is an expected result that a statistically significant correlation was determined between the HLS-EU-Q and MASES-SF mean scores in this study. However, the weak relationship between HLS-EU-Q and MASES-SF score averages can be explained by the cultural characteristics of individuals.

Conclusion and Recommendations

It was observed that the HLS mean score was not at the desired level, and the MASES-SF mean score was at a good level. In addition, a positive, weak, and significant correlation was found between the HLS mean score and the MASES-SF mean score.

It is very important to plan health education to inform the public about HL and medication adherence self-efficacy. In addition, awareness about HL and medication adherence self-efficacy should be raised during home visits in the public health nursing course practice. Additionally, it would be useful to conduct studies on this subject with large samples. Qualitative studies can be conducted to identify factors that prevent medication adherence.

Conflict of Interest

No potential conflicts.

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