Original Article

Relationship between Medication Compliance and Fatalistic Tendency in Patients with Hypertension

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Abstract

Purpose: The present study aims to identify the relationship between medication compliance and fatalistic tendency in patients with hypertension

Method: This cross-sectional study was conducted in a family health center between May 2018 and December 2018.

Findings: There was a statistically significant weak positive relationship between the mean scores the participants obtained from the Adherence to Refills and Medications Scale and the mean scores for the Fatalism Tendency Scale (p <0.05). The level of the participants' behaviors of medication compliance and adherence to refills was higher than the middle level. Likewise, their fatalistic tendencies were above the middle level.

Conclusions: There was a negative relationship between the participants' medication compliance and adherence to refills behaviors and their tendencies to fatalism, and their medication compliance and adherence to refills behaviors decreased as their tendencies to fatalism increased.

Key Words: Hypertension, Fatalism, Medication Compliance, Nursing

Introduction

Hypertension is still one of the most important preventable factors which increase the risk of morbidity and mortality. It is known that approximately 30% of the adult population is affected by hypertension. The World Health Organization (WHO) predicts that by 2025, one billion people in the world will suffer from hypertension and at least 1% of these people will have acute hypertensive attacks that may require hospitalization (Cander, 2017). In Turkey, there are about 15-16 million patients with hypertension. According to the results of two studies conducted nationwide, the general prevalence of hypertension was 33.7% and 30.3% respectively (Sengul, Akpolat, Erdem, Derici, Arici, Sindel, and Erturk, 2012).

Among the general precautions in the treatment of hypertension are avoiding consuming salt, avoiding drinking alcohol and smoking, losing weight, doing regular exercise and having treatment of dyslipidemia. In the medical treatment of hypertension, diuretics, beta blockers, alpha blockers, Ca channel blockers, Angiotensin-converting enzyme (ACE) inhibitors, centrally acting antihypertensives and direct acting vasodilators are used (Polat and Gulay, 2015). In case medical / drug therapy is started for the disease management, medication compliance plays a very important role in keeping blood pressure under control. Although the importance of medication compliance in controlling blood pressure is very well known, the control of hypertension is not at the desired level in all health levels (Boratas and Kilic, 2018; Kul, 2018).

If blood pressure cannot be controlled despite treatment, the following three factors are emphasized as causes: patient's nonadherence to the treatment, inadequate treatment and resistant hypertension. Of these three causes, patient's nonadherence is considered as the main cause of poor hypertension control worldwide (Kaya, 2016). The leading problem in the treatment of hypertension is the inability of the person with hypertension to comply with the treatment. It has

been reported that 50% of individuals diagnosed with hypertension refuse to receive hypertension treatment within the first year after diagnosis, and only 50% of those who continue to receive treatment use the prescribed drugs (Teke and Arslan, 2018). In several studies conducted on the issue, it has been determined that approximately half of the patients with hypertension do not go to the controls and that 30-50% of the patients do not use the antihypertensive drugs as prescribed. It was also determined that of the patients diagnosed with hypertension, while 50% discontinued treatment within the first year after diagnosis, 75% discontinued treatment within the five years (Vatansever and Unsal, 2014; Boratas and Kilic, 2018).

In patients with hypertension, nonadherence may begin by not taking the medication regularly, not having the prescription refilled or not including the medication in their treatment plan. Non-adherent patients cannot comply with the treatment correctly because they are neither followed appropriately nor taught correctly how to comply with the treatment, they do not believe in the benefit of taking the medication due to feeling good or bad, they forget to take the medication at the right dose, or they do not take their medication of their own free will (Boratas and Kilic, 2018; Mahmood, Jalal, Hadi, Orooj and Shah, 2020).

Mahmood et al. (2020) reported that patients with hypertension experience drug nonadherence due to various thoughts and beliefs such as lack of information about hypertension, forgetfulness, side effects of the medication, cost of the medication, being unaware of the symptoms of hypertension, having to take the medication on a permanent basis, thinking that the medication may cause them harm or even kill them, thinking that drug addiction may occur, thinking that it is unnecessary to take medication when the blood pressure level is normal, and believing that taking medication does not cure hypertension (Mahmood et al., 2020). Individuals' values, beliefs and health-related cultural practices can also be considered as factors that may affect compliance with drug therapy. Individuals who approach the management of health and diseases with a fatalistic approach may refuse drug therapy or may not require the timely and regular use of drugs. People, especially in the presence of chronic diseases, beneft from modern medicine on one hand and try to cope with a life-threatening situation with their religious tendency and beliefs on the other hand (Rafety, Billig and Mosack, 2015; Çınar and Eti Aslan, 2017).

In a study, a positive, signifcant relationship was found between the Fatalism Tendency Scale total mean score and Sensitivity, Importance Perception, Pap smear Benefit Perception and Pap smear Barrier Perception sub-scale mean scores. In the same study, the participating women were found to have a low level of breast cancer fatalism (Bakan, Aslan and Yıldız, 2020). In the light of this information, the present study was conducted to investigate the relationship between medication compliance and fatalistic tendency in patients with hypertension.

Methods

This cross-sectional study was conducted in a family health center between May 2018 and December 2018. The population of the study consisted of 495 people diagnosed with hypertension registered in the family health center. The sample size was calculated as 222 using the sampling method for known population. The simple random sampling method was used to select the members of the sample from the population.

Inclusion criteria: Having been diagnosed with hypertension for at least 6 months

- Taking antihypertensive medication

- Being 18 years or older

- Having no communication problem

The study data were collected in the outpatient clinic of the family health center using the face-to-face interview technique. Tools used to collect the study data were the Descriptive Information Form, Adherence to Refills and Medications Scale (ARMS-7) and Fatalism Tendency Scale (FTS).

Descriptive Information Form: The form consists of 15 items questioning the socio-demographic and disease characteristics of the patients.

Adherence to Refills and Medications Scale (ARMS-7): This scale based on self-reporting of patients with one or more chronic diseases (diabetes, dyslipidemia, hypertension, etc.) is used to assess patients' medication compliance and adherence to refills. The scale can also be used to determine the medication compliance of patients with low literacy with a chronic disease.

The scale was developed by Kripalani, Risser, Gatti and Jacobson (2009). The Turkish version of the scale whose validity and reliability study was performed by Gökdoğan and Kes (2017) is composed of seven items. The scale has two subscales: Drug Compliance and Adherence to Refills. Responses to the items are rated on a 4-point Likert scale ranging from 1 to 4 (Never (1), Sometimes (2), Mostly (3) and Always (4)). The score for the overall scale is calculated by summing the scores of the first six items and by subtracting the score of the 7th item, because it is reverse scored. The minimum and maximum possible scores to be obtained from the scale are 7 and 28 respectively. The scores that can be obtained from the Drug Compliance and Adherence to Refills subscales range between 4 and 16, and between 3 and 12 respectively. The lower the total score is the better the medication compliance is. The Cronbach's alpha coefficient of the scale was 0.75 in Gökdoğan and Kes's adaptation study (2017) and 0.77 in the current study.

Fatalism Tendency Scale (FTS): The scale developed by Kaya and Bozkur (2015) has 24 items, and 4 subscales namely Predetermination, Personal Control, Superstition and Luck. Responses to the items are rated on a 4-point Likert scale ranging from 1 to 5 (1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree). While the items in the Personal Control subscale are reverse-scored items, the items in the other three subscales are non-reverse-scored items. The maximum and minimum possible scores to be obtained from the Predetermination scale are 40 and 8 respectively. A high score obtained from this subscale indicates that the person's belief that everything in life is predetermined is stronger.

While the maximum possible score to be obtained from the Personal Control subscale is 30, the minimum possible score is 6. A high score obtained from this subscale indicates that the level of perception of personal control is low. The highest and lowest possible scores that can be obtained from the Superstition subscale are 30 and 6 respectively. A high score obtained from this subscale indicates that the person tends to believe in superstitions more. While the highest possible score to be obtained from the Luck subscale is 20, the minimum possible score is four. The higher the score obtained from this subscale is the greater the tendency to believe in luck is. The total score for the Fatalism Tendency Scale is calculated by

summing the scores obtained from all the subscales. The highest and minimum possible scores to be obtained from the overall Fatalism Tendency Scale are 120 and 24 respectively. The greater the person's tendency to fatalism is the higher the score the person obtains from the Fatalism Tendency Scale is[16] while the Cronbach's alpha coefficient was 0.72 in the validity and reliability study of the scale conducted by Kaya and Bozkur (2015), it was 0.89 in the present study.

The statistical analysis of the data was performed in the SPSS 23.0 program. The normality test performed to determine whether the study data had a normal distribution revealed that the data had a normal distribution. In the analysis of the data, numbers, percentages and mean values were calculated and the Pearson's Correlation analysis, t test and variance analysis were used.

Ethical Considerations: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Before the study was conducted, ethics committee approval, the permission of the institution to which the family health center where the study would be conducted was affiliated, verbal consent of the participants and written permissions of the authors who performed the validity and reliability studies of the scales to be used in the study were obtained. Prior to the study, SANKO University Clinical Research Ethics Approval was obtained with 26/03/2018-E.20118/02 document number 12 declared on 29/03/2018.

Results

Of the individuals participating in the study, 42.8% were between the ages of 55-64, 57.7% were male, 95.9% were married, 55% were primary school graduates, 63.5% were not working / retired and 84.7% were his income is equal to his expense. 84.2% of the individuals do not have any disease other than hypertension, 50% of them use one drug continuously and 86% use only one drug for hypertension. 63.5% of the individuals stated that they used the drugs recommended by others, 49.1% used non-drug methods to lower blood pressure, and 78.9% of those who used non-drug methods used lemon to lower blood pressure.

The mean scores the participants of the present study obtained from the Adherence to Refills and Medications Scale and its Drug Compliance and Adherence to Refills subscales were 14.38±4.35, 7.94±2.58 and 6.44±1.99 respectively (Table-1). The mean scores the participants of the present study obtained from the Fatalism Tendency Scale and its Predetermination, Personal Control, Superstition and Luck subscales were 80.07±10.01, 28.76±5.12, 18.67±3.25, 20.15±4.58 and 12.48±2.84 respectively (Table-2). The comparison of the mean scores the participants obtained from the Adherence to Refills and Medications Scale (ARMS-7) in terms of their socio-demographic characteristics such as sex, age and marital status demonstrated that there was no statistically significant difference between their ARMS-7 scores ($p > 0.05$). While of the participants, those who were illiterate or workers obtained higher mean scores from the ARMS-7 than did the participants who had junior high school or above education or who were civil servants respectively, the participants whose income was higher than their expenses obtained lower ARMS-7 scores than did the participants whose income was lower than their expenses ($p < 0.05$) (Table - 3). The comparison of the mean scores the participants obtained from the Fatalism Tendency Scale (FTS) in terms of their socio-demographic characteristics such as sex, age and marital status demonstrated that there was no statistically significant difference between their FTS scores ($p > 0.05$). While of the participants, those who were illiterate or workers or had an income lower than their expenses obtained higher mean scores from the FTS than did the participants who had junior high school or above education or who were civil servants or who had an income higher than their expenses respectively (Table - 3). The comparison of the mean scores the participants obtained from the Adherence to Refills and Medications Scale (ARMS-7) in terms of their disease-related characteristics demonstrated that of the participants, those without a disease comorbid with hypertension obtained higher mean scores than did the participants with a comorbid disease ($p < 0.05$). There was no statistically significant difference between the participants' mean ARMS-7 scores in terms of the variables such as the number of medications used continuously, taking medication upon others' recommendations, using a nonpharmacological method, and the nonpharmacological method used ($p > 0.05$) (Table-4). When the mean ARMS-7 scores of the participants were compared in terms of the frequency of blood pressure measurement, it was found that of the participants, those who did not have their blood pressure measured obtained higher scores than did those who had their blood pressure measured once a week ($p < 0.05$) (Table-4). According to the comparison of the mean scores the participants obtained from the Fatalism Tendency Scale (FTS) in terms of their disease-related characteristics, no statistically significant difference was determined between the participants' mean FTS scores in terms of the variables such as the presence of a comorbid disease, the number of medications taken continuously, taking medication upon others' recommendations, using a nonpharmacological method, and the nonpharmacological method used ($p > 0.05$). The comparison of the mean ARMS-7 scores of the participants in terms of the frequency of blood pressure measurement demonstrated that of the participants, those who had their blood pressure measured when the felt it was high obtained higher scores than did those who never had their blood pressure measured ($p < 0.05$) (Table-4). There was a statistically significant weak positive relationship between the mean scores the participants obtained from the Adherence to Refills and Medications Scale (ARMS - 7) and the mean scores for the Fatalism Tendency Scale (FTS) and its Predetermination, Personal Control, Superstition and Luck subscales ($p < 0.05$) (Table-5).

Table - 1. Minimum and maximum possible scores that can be obtained from the Adherence to Refills and Medications Scale and the mean scores the participants of the present study obtained from the same scale (n:222)

Subscales and scale	Minimum and maximum possible scores that can be obtained	Mean scores the participants of the present study obtained	
		Min-Max Score	$\overline{X}$ ±SD
Drug Compliance subscale	4-16	4-12	7.94±2.58
Adherence to Refills subscale	3-12	3-10	6.44±1.99
ARMS-7 Total score	7-28	7-22	14.38±4.35

Table - 2. Minimum and maximum possible scores that can be obtained from the Fatalism Tendency Scale and the mean scores the participants of the present study obtained from the same scale

Subscales and scale	Minimum and maximum possible scores that can be obtained	Mean scores the participants of the present study obtained	
		Min-Max Score	$\overline{X}$ ±SD
Predetermination subscale	8-40	16-37	28.76±5.12
Personal Control subscale	6-30	12-24	18.67±3.25
Superstition subscale	6-30	9-27	20.15±4.58
Luck subscale	4-20	7-16	12.48±2.84
FTS Total score	24-120	56-103	80.07±10.01

Table-3. comparison of the mean scores the participants obtained from the Adherence to Refills and Medications Scale and Fatalism Tendency Scale in terms of their Socio-Demographic Characteristics

Socio Demographic Characteristics (n=222)	Number	ARMS-7 $\overline{X}$ ± SD		FTS $\overline{X}$ ± SD	
Sex					
Men	128	14.28±4.46	t=0.423	79.53±10.27	t=-0.933
Women	94	14.53±4.21	p=0.67	80.80±9.64	p=0.35
Age					
17-44 years	24	2.25±0.67		75.75±11.05	
45-54 years	78	2.37±0.70	F=0.296	80.06±9.32	F=2.316
55-64 years	95	2.38±0.62	p=0.82	80.38±10.13	p=0.07
≥65 years	25	2.40±0.76		83.08±9.79	
Marital status					
Married	213	14.36±4.39	t=0.430	79.94±10.08	t=-0.962
Single	9	15.00±3.39	p=0.66	83.22±7.72	p=0.33
Education					
Illiterate	63	15.87±3.50		84.60±6.70	
Primary school graduate	122	14.19±4.53	F=5.403 p=0.00*	81.37±9.17 69.23±8.47	F=33.799 p=0.00*
Junior or senior and high school graduates	30	12.76±4.56		63.14±2.91	
	7	11.28±2.75			

University					
Income status					
Income less than expenses	10	14.60±2.83	F=4.018	84.90±10.97	F=31.97
Income equal to expenses	188	14.67±4.41	p=0.01*	81.54±8.85	p=0.00*
Income is more than expenses	24	12.04±3.74		66.58±7.76	
Employment Status / Job					
Not working	141	14.29±4.18	F=3.486	80.24±10.36	F=9.962
Civil servant	11	10.72±4.49	p=0.01*	65.63±8.07	p=0.00*
Self employed	30	14.90±4.84		80.56±8.14	
Worker	40	15.32±4.51		83.10±6.89	

Table-4. Comparison of the mean scores the participants obtained from the Adherence to Refills and Medications Scale and Fatalism Tendency Scale in terms of their disease-related characteristics

Disease-related characteristics (n=222)	Number	ARMS-7 $\overline{X} \pm$ SD		FTS $\overline{X} \pm$ SD	
Presence of a comorbid disease					
No	187	14.75±4.20	t=2.997	80.13±9.99	t=0.214
Yes (Diabetes)	35	12.40±4.63	p=0.00*	79.74±10.25	p=0.83
The number of medications used continuously					
One	111	14.43±4.30	F=1.385	78.94±10.19	F=1.733
Two	87	14.70±4.23	p=0.25	81.59±9.77	p=0.17
Three or more	24	13.04±4.88		79.79±9.69	
Taking medication upon others' recommendations					
No	81	14.92±4.12	t=1.401	80.11±11.37	t=0.039
Yes	141	14.07±4.46	p=0.16	80.05±9.17	p=0.96
Using a nonpharmacological method					
No	113	14.67±4.42	t=0.994	79.60±10.22	t=-0.719
Yes	109	14.09±4.27	p=0.32	80.56±9.80	p=0.47
Nonpharmacological method used (n=109)				80.43±9.64	F=0.224
Lemon consumption	86	14.01±4.20	F=1.086	80.40±11.52	p=0.88
Garlic consumption	10	13.23±5.05	p=0.35	81.61±10.25	
Both lemon and garlic consumption	13	15.90±3.72			
Frequency of blood pressure (BP) measurement					
Everyday	3	14.00±2.64	F=21.278	82.33±20.03	F=11.792
Several days a week	21	11.52±3.07	p=0.00*	74.42±11.43	p=0.00*
Once a week	42	10.61±3.01		73.33±10.88	
When felt BP is high	152	15.66±4.00		82.85±8.02	
Never	4	20.75±0.95		73.25±8.05	

Table 5. Relationship between the mean scores the participants obtained from the Adherence to Refills and Medications Scale (ARMS - 7) and the Fatalism Tendency Scale (FTS) and its subscales

Fatalism Tendency Scale (FTS) and its Subscales	Adherence to Refills and Medications Scale (ARMS - 7)		
	n	**r**	**p**
Predetermination Subscale	222	0.333	0.00
Personal Control Subscale	222	0.299	0.00
Superstition Subscale	222	0.448	0.00
Luck Subscale	222	0.443	0.00
FTS Total	222	0.405	0.00

Discussion

In the literature, there are a limited number of studies showing the relationship between fatalism and health related issues such as disease management and medication compliance and establishing a relationship between fatalism tendency and certain diseases. Therefore, the present study is expected to make a significant contribution to the field.

The mean scores the participants of the present study obtained from the Adherence to Refills and Medications Scale and its Drug Compliance and Adherence to Refills subscales were 14.38±4.35, 7.94±2.58 and 6.44±1.99 respectively. Given the maximum scores that can be obtained from the scale and its subscales, the mean scores the participants obtained from the Adherence to Refills and Medications Scale and its subscales were below the average. The lower the scores obtained from the ARMS-7 and its subscales are, the higher the level of medication compliance and adherence to refills is.

In Teke and Arslan's (2018) study conducted with patients with hypertension living in rural areas, the participants' medication adherence / compliance self-efficacy scores were slightly above average, consistent with those of the present study. On the other hand, in Vatanser and Unsar's study (2014), the mean medication adherence/compliance self-efficacy scores of the participants with hypertension were good. In Sayin Kasar and Kardakovan's study (2017), the rate of the elderly patients with hypertension who quit taking antihypertensive drugs of their own free will was 28.8% and almost half of the participants aged over 65 forgot to take antihypertensive drugs regularly. In Kul's (2018) study conducted to investigate the medication compliance in chronic diseases and the factors affecting compliance, the level of medication compliance in patients with hypertension was above average (62.7%).

Since hypertension is a disease that can cause sufferers to have serious complaints and affect their quality of life significantly, people often prefer to take medication regularly to overcome the symptoms caused by high blood pressure. In the present study, there were no statistically significant differences between the mean scores the participants obtained from the Adherence to Refills and Medications Scale in terms of such variables as sex, age and marital status. Similarly, in Vatanser and Unsar's study (2014), the participants' mean scores for medication adherence / compliance did not differ by sex. In Kaya' study (2016) conducted to assess hypertensive patients' medication compliance, there was no significant difference between the sexes. In Gun and Korkmaz's study (2014), there was no correlation between the participants' compliance with hypertension treatment and their marital status.

In Teke and Arslans's (2018) study, variables such as age, sex and marital status did not affect the participants' medication adherence / compliance. In the present study, the illiterate participants obtained higher mean scores from the ARMS-7 than did the participants who had junior high school or above education, which suggests that the lower the education level is the lower the level of medication compliance is. Contrary to the current study, in many studies conducted on

hypertensive patients' compliance with medication treatment, the education level was determined to have no effect on compliance (Vatanser and Unsar 2014; Gun and Korkmaz 2014; Teke and Arslan, 2018). The education level, one of the socio-economic indicators of an individual, also affects the person's seeking solutions to health problems, benefiting from health services and acquiring healthy lifestyle behaviors. As the education level increases, so do positive attitudes and behaviors towards health.

According to the results of the present study, the participants whose income was higher than their expenses obtained lower ARMS-7 scores than did the other participants whose income was lower than their expenses which suggests that those whose income was higher than their expenses displayed a better medication compliance behavior. Contrary to the results of the study, according to the results of Vatanser and Unsar's study (2014), there was no significant relationship between the participants' mean scores for medication adherence / compliance and their economic status. In Teke and Arslan's study (2018), no significant correlation was determined between the participants' mean scores for adherence /compliance to drug treatment and their economic status either.

On the hand, Lee, Wang, Liu, Cheung, Morisky and Wong (2013), the participants' economic status affected their compliance with drug treatment. Good economic status makes it easier for people to meet their basic life needs and to facilitate their access to health services. Accessible health services improve individuals' quality of life and life satisfaction. Individuals with low economic status have a more limited opportunity to access health services and medication, and display poor medication use and management behaviors. In the current study, of the participants, those who were workers obtained higher mean scores from the ARMS - 7 than did the civil servant participants, which indicates that a person's job affects his/her medication compliance. A person's career is usually directly proportional to his/her education. Education level is an important factor affecting a person's health literacy and health behaviors.

In the present study, of the participants, those who had high education level had better medication compliance. Lee et al., (2013) reported that the profession affected medication compliance. Teke and Arslan (2016), on the other hand, stated that

the participants' employment status did not affect their mean score for the medication adherence/compliance. In our study, the number of medications used continuously, taking medication upon others' recommendations, using a nonpharmacological method and the nonpharmacological method used did not affect the mean scores the participants obtained from the ARMS – 7. Similarly, Koruk (2019) reported that there was no statistically significant correlation between medication compliance, and the number of medications used and using a nonpharmacological method. However, in Teke and Arslan's study (2016), there was no correlation between the presence of a disease comorbid with hypertension and the mean score for the compliance with medication treatment.

In the present study, the mean scores the participants obtained from the Fatalism Tendency Scale (FTS) was 80.07 ± 10.01. As the score obtained from the scale increases, so does the tendency towards fatalism. In this case, we can say that the fatalistic tendency among the participants was above the middle level. The mean scores the participants obtained from the Predetermination, Personal Control, Superstition and Luck subscales of the FTS were also above the middle level. Accordingly, it can be said that the participants' perceptions that everything in life is predetermined, their perceptions of personal control, their tendency to believe in superstitions, and their tendency to believe in luck were above medium level.

According to the results of Hekimoglu and Sensoy's study (2014), those who believe that the control is in their owns hands have an internal locus of control, those who believe that the results come out independently of them in general and that the control is managed by strong outside parties have an external locus of control, and those who attribute control to external factors such as chance, fortune, fate etc. are fatalistic In the same study, it was also stated that the participants who obtained higher scores from the luck subscale or attribute the locus of control to luck smoked more, did less sports and consumed less fruits and vegetables than did the other participants.

In their study conducted with patients with hypertension, Gutierrez, McCurley, Roesch, Gonzalez, Castaneda, Penedo and Gallo (2017) reported that tendency to fatalism was high among them. According to De Los Espinosa Monteros and Gallo (2013), the impact of fatalism on health

is high, and if a healthy society is to be built, health and fatalism should be investigated within the same context and the relationship between health and fatalism should be examined. In another study, De Los Espinosa Monteros and Gallo (2011) stated that the level of fatalistic beliefs in cancer patients was high and fatalism affected cancer screening adversely. In their study on breast cancer, Abraido-Lanza, Martins, Shelton and Florez (2015) stated that fatalism did not have any effect on the mammography behaviors related to early diagnosis and treatment.

It is thought that fatalism affects health to a great extent, and that it will be highly effective in improving public health if its effect is made beneficial for health. As the mean score the participants obtained from the Adherence to Refills and Medications Scale (ARMS-7) increased so did their mean scores for the Fatalism Tendency Scale (FTS) and its subscales. The increase in the mean Adherence to Refills and Medications Scale score indicates that medication compliance and adherence to refills decrease whereas the increase in the mean Fatalism Tendency Scale (FTS) score indicates that tendency to fatalistic beliefs increase. In this case, individuals' tendency towards fatalism increases while their medication compliance and adherence to refills decrease.

This is thought to stem from the fact that individuals tend to believe that health and disease locus of control depends on external resources, such as luck and fate which they cannot change. In their study, Kaya and Bozkur (2017) reported that while there was a weak negative relationship between individuals' self-efficacy beliefs, and the Predetermination, Luck and Superstition subscales of the Adherence to Refills and Medications Scale, there was a moderate negative significant relationship with the Personal Control subscale, and that the fatalistic tendency increased as the level of self-efficacy beliefs decreased. Kul (2018) states that there is a positive relationship between medication compliance and beliefs in the necessity of taking medication. Hekimoglu and Sensoy (2014) report that individuals with an internal locus of control assume more health responsibilities related to locus of control and preventive health practices.

Conclusion: In conclusion, the level of the participants' behaviors of medication compliance and adherence to refills was higher than the middle level. Likewise, their fatalistic tendencies were above the middle level. There was a negative relationship between the participants' medication compliance and adherence to refills behaviors and their tendencies to fatalism, and their medication compliance and adherence to refills behaviors decreased as their tendencies to fatalism increased.

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