

Original Article

Relationship between Demographic Features, Adherence to Treatment and Quality of Life of Hypertension Patients in Turkey

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Abstract

Objective: The purpose of this study was to determine relation between demographic features, treatment adherence and quality of life of hypertension patients.

Design: This descriptive study was performed.

Subject: Two hundred twenty hypertension patients were included in the study.

Setting: Firat University Hospital Cardiology Clinic and Polyclinic, Elazığ, Turkey

Intervention: The scales were filled by face-to-face interview with patients.

Main Outcome Measures: The Demographic Features Question Form, SF-36 Quality of Life Scale and Medication Adherence Self-Efficacy Scale.

Results: In this study, treatment adherence was lower the level in female, married, illiterate, who do not regularly check hypertension and who received no hypertension training ($p < 0.05$). It was determined that the patients married, illiterate, who use more than one antihypertension drug, who do not regularly check hypertension and who received no hypertension training were significantly lower physical and mental health ($p < 0.05$). There was a positive significant relationship between the mean scores of treatment adherence and quality of life of hypertension patients ($p < 0.001$).

Conclusion: In this study, demographic features was related to both medication adherence and quality of life in hypertension patients. It was determined that treatment adherence was positively related with quality of life.

Key Words: Hypertension, medication adherence, quality of life.

Introduction

Hypertension is a common and important public health problem in Turkey and worldwide. Worldwide, annually more than nine million deaths, or 16.5% of all deaths can be attributed to directly or indirectly to the effects of hypertension (Lim et. al. 2012). It was observed that in Turkey 1 out of every 3 people are hypertensive and the disease is more common in females than in males. The study of Turkish Hypertension Prevalence (PATENT) reported that general prevalence of hypertension was 30.3%; 32.3% in females and 28.4% in males. Despite high prevalence of hypertension in Turkey, only 54.7% of patients are aware of their

condition. It was found that only 47.4% of hypertensive patients received anti-hypertensive treatment and of those who received treatment, blood pressure of only 28.7% were under control (Sengul 2013).

The main goal of hypertension treatment is to keep the blood pressure within the ideal limits with drug therapy. However the disease can be kept under control by lifestyle changes and combination of certain medications (Mert, Ozcakar and Kuruoglu 2011). Proper control of hypertension reduces mortality due to stroke, coronary artery disease (CAD) and heart failure by 15 - 20% and prevents development of severe hypertension (Sozmen, Ergor and Unal 2015). It

is a vital part of pharmacologic treatment in Hypertension. Patient medication adherence is undoubtedly the most important factor in success of treatment. In hypertension treatment, patient adherence and maintenance of treatment are crucial factors in blood pressure control (Mert, Ozcarar and Kuruoglu 2011). Although adherence medication of patients has a crucial role in successful management of the disease, today non-adherence to treatment is common (Herrimana and Cerretani 2007). It was found that blood pressure control in adults in Turkey was 8% in all hypertensive and 20% in those who were aware of their high blood pressure levels and who received treatment (Arica et. al. 2015). Non-adherence of patients to treatment is one of the most important factors in failure of increased blood pressure control over 25% level in Turkey. Previous studies reported that approximately half of hypertensive patients missed their controls; 30 - 50% failed to take prescribed antihypertensive medications. Furthermore, it was found that 50% of patients stopped taking medication within 1 year they were diagnosed with hypertension; while 75% stopped taking medications within 5 years they were diagnosed with hypertension. To be successful in the management of hypertension, patients must be committed to providing and maintaining blood pressure control provide blood pressure control and medication adherence (Hacihanoglu 2009).

The use of antihypertensive drugs and lifestyle changes cause changes in the life of individuals to maintain hypertension therapy (Ozpancar and Fesci 2017). Community based studies showed that the individual with hypertension had lower levels of quality of life than those of normal population (Bardage and Isacson 2001). It has been reported that drug use frequency, drug side effects and drug combinations decrease the quality of life in patients with hypertension. However, the adherence treatment of the patient increases the quality of life (Bolarinwa 2016).

All members of health care team should have the responsibility of providing complete and correct information to the patients to enable them to follow a more positive lifestyle, to maintain target blood pressure and to increase patients' participation to their care and should and conduct a joint study (Hacihanoglu 2009). Nurses spend the longest time with the patients among all health care providers. Nurses can undertake a key role for the patients to cope with the disease. Nurse trainers should be in

constantly contact with patients. It can be taught the importance of changing habits that affect blood pressure control in nursing education. The nurse can help the patients understand the side effects of the drugs and help them cope (Tas and Buyukbese 2013). Much of previous research reported that adherence to treatment increased and blood pressure of the hypertensive individuals significantly decreased following the interventions performed by nurse trainers (Garcia-Peña 2001; Irmak, Duzoz and Bozyer 2007; Canzanello 2005). To fulfill this aim, the nurses should evaluate patients' adherence to care plans.

The purpose of this study was to determine relation between demographic features, treatment adherence and quality of life of hypertension patients.

Subjects and Methods

This is a descriptive study. The population of the study consisted of all essential hypertension patients who were admitted to Firat University Hospital Cardiology Clinic and Polyclinic. The sampling of the study consisted of a total of 220 voluntary patients over the age of 18, who were diagnosed with essential hypertension for at least three months, with no disease to affect cognitive functions.

Data was collected through face-to-face interviews following necessary explanations by the researcher and by the analysis of patient records. The Demographic Features Question Form, SF-36 Quality of Life Scale and Medication Adherence Self-Efficacy Scale (MASES) were used to collect data.

Data collection

The participants were explained that participation was voluntary and that they could leave the study any time they wanted. Informed consents of the participants were taken, thus fulfilling the related ethical principle. Necessary permissions were taken from the organization where the study was conducted.

Instruments

Demographic Features Question Form: The form consists of questions to determine descriptive, disease and treatment characteristics of patients.

Medication Adherence Self-Efficacy Scale (MASES): MASES was developed by Ogedegbe G. et al. 2003 in a hypertensive American

sampling. The scale was adapted into Turkish in by Gozum S.&Hacihanoglu R. 2005. MASES was used to determine adherence to medication treatment self-efficacy in hypertensive patients. MASES contains 26 statements that question the factors affecting regular use of antihypertensives used by hypertensive patients and to evaluate self-efficacy level of individuals by agreeing with this statement. The participants were asked to evaluate the items in the scale using “Not at all sure”, “A little sure”, “Extremely sure”. In this respect, total possible scores from the scale vary between 26-78. High scores indicate that an individual has good adherence to antihypertensive treatment (Gozum and Hacihanoglu 2009). Reliability coefficient of Turkish adaptation of the scale was found to be .92. In the present study reliability coefficient was found to be .95.

SF-36 Quality of Life Scale: SF-36 was developed by Ware in 1989. It was designed to be used in clinical practice and research, evaluation of health policies and general population research. It is an individual evaluation scale which can be used by individuals aged 14 and over by self-evaluation or with the help of a researcher. The scale consists of 36 statements. It is a multiple-title scale that evaluates 8 health concepts (physical functioning, role-physical, vitality/fatigue, bodily pain, general health, social functioning, role-emotional, mental health) and 2 main (physical dimension and mental dimension) titles. Physical dimension is evaluated by addition of physical functioning, role physical, vitality/fatigue, bodily pain, general health sub-dimensions and divided by 5. On the other hand, mental dimension is evaluated by addition to social functioning, role emotional, mental health, vitality/fatigue, general health and divided by 5. Vitality/fatigue and general health is included in both dimensions. SF-36 is scored in such a way to increase health-related quality of life as the score of each health domain increases. Scores of health related health domains get values varying from 0 to 100 from the lowest to the highest score (Pinar 1995). In the present study, reliability coefficient was found to be .80 for physical health main dimension and .83 for mental health main dimension.

Statistical analysis

SPSS for Windows 15 (Statistical Package Social Sciences for Windows) package program, percentage, means, standard deviations, Independent-Samples T, Man Whitney U tests, Kruskal-Wallis Variance, Pearson Correlation Coefficient Analyses and Cronbach- α coefficient were used for statistical analysis. $p < 0.05$ level was found to be statistically significant.

Ethical consideration

This study followed scientific principles and universal ethical values. The participants were explained that participation was voluntary and that they could leave the study any time they wanted. Informed consents of the participants were taken, thus fulfilling the related ethical principle. The principle of respect to human dignity was taken into account and the principle of confidentiality was obeyed. Necessary permissions were taken from the hospital where the study was conducted.

Results

Demographic characteristics of the patients showed that 55.9% were male; 38.2% were in 66 - 76 age group; 84.5% were married and 40.9% were illiterate. It was found that 5.9% of the patients were civil servants, while 10% were unemployed. Of the patients, 32.3% had their high blood pressure measured in a community health center for the first time. Palpitation ranked the first among the reasons for blood pressure measurements. In the study group, 40.9% were hypertension patients for 1 - 5 years; 44.1% used antihypertensive medications for 1 - 5 years. Of the sampling group, 97.7% were diagnosed with hypertension at the age of 30 and over. We found that 73.2% of the patients had a history of hypertension in their families; 56.8% used more than one antihypertensive medications; 35% used a single type of medication; 55.9% do regular hypertension controls; 43.2% had regular clinic appointments in every 3 months; 23.6% reported that they did not keep regular check hypertension due to transport problems and 66.4% received no hypertension training.

Table 1: Mean scores of treatment adherence and quality of life according to demographic features of patients

Demographic features	n	%	Treatment Adherence	Physical Health	Mental Health
Gender					
Female	97	44.1	48.92±13.62	19.68±14.74	28.00±19.06
Male	123	55.9	50.47±16.07	21.95±15.39	27.06±16.49
			t= -0.758	t= 1.107	t= -0.391
			p<0.05	p>0.05	p>0.05
Age					
35–54	43	19.5	51.97±15.11	25.84±15.20	33.72±19.96
55–65	70	31.8	50.75±13.06	22.83±14.99	30.32±16.60
66–76	84	38.2	48.28±15.45	18.15±14.16	23.64±16.01
77 ve ↑	23	10.5	46.52±16.07	16.30±16.13	21.15±17.45
			KW= 3.507	KW= 12.839	KW= 17.919
			p>0.05	p<0.05	p<0.05
Marital status					
Married	186	84.5	48.53±14.37	20.09±15.08	25.94±17.05
Single	34	15.5	55.47±15.55	25.66±14.62	35.88±18.65
			t= -2.554	t=-1.990	t = -3.081
			p<0.05	p<0.05	p<0.05
Educational status					
Illiterate			45.61±15.82	17.06±13.62	24.18±16.59
Literate	90	40.9	49.28±15.04	19.76±12.79	26.58±15.50
Primary Education	35	15.9	50.53±12.37	20.92±14.40	27.01±17.19
High School	62	28.2	58.38±12.99	36.20±18.75	43.35±21.40
Higher Education	18	8.2	60.00±7.99	28.88±14.10	32.25±16.35
	15	6.8	KW= 13.845	KW= 16.796	KW= 13.742
			p<0.05	p<0.05	p<0.05
Job					
Housewife	93	42.3	50.52±16.29	19.28±14.51	27.56±18.83
Retired	67	30.5	48.92±13.64	22.02±16.05	27.25±17.35
Civil Servant	13	5.9	57.69±12.45	27.34±14.35	34.81±19.31
Unemployed	22	10.0	45.31±13.54	14.95±11.55	23.21±14.06
Other	25	11.3	47.60±12.38	26.24±15.82	27.72±15.67
			KW=6.604	KW= 10.525	KW= 3.994
			p >0.05	p<0.05	p>0.05

Duration of illness					
<1 year	30	13.7	48.70±13.54	27.99±16.41	33.07±20.53
1-5 year	90	40.9	49.15±14.33	20.53±16.41	26.61±17.29
6-10 year	72	32.7	50.09±16.05	19.58±15.10	26.70±17.86
> 10 year	28	12.7	50.78±14.34	18.27±12.40	26.26±14.34
			KW=0.345	KW=7.328	KW=2.358
			p >0.05	p >0.05	p >0.05
Hypertension medications currently used					
Single	77	35.0	50.64±14.88	27.17±17.11	34.53±19.49
Combined/Single	18	8.2	55.88±14.59	33.12±11.85	44.03±15.94
More than one	125	56.8	48.06±14.48	15.36±11.30	20.75±12.85
			KW= 5.309	KW= 37.299	KW=41.42
			p >0.05	p <0.05	p <0.05
Go to regular check					
Yes	123	55.9	53.99±13.13	24.37±14.78	31.06±17.26
No	97	44.1	44.05±14.84	16.61±14.47	22.94±17.13
			t= 5.261	t=3.903	t=3.475
			p<0.05	p<0.05	p<0.05
Receiving hypertension training					
Yes			55.55±13.06	26.70±13.82	34.61±16.32
No			46.59±14.66	18.04±14.94	23.86±17.22
	74	33.6	t= 4.437	t=4.162	t=4.452
	146	66.4	p<0.05	p<0.05	p<0.05

Table 2: The Relationship between treatment adherence and quality of life of patients

	Quality of Life	
	Physical Health	Mental Health
Treatment Adherence	r =0 .456	r =0.448
	p=0.000*	p=0.000*

* Correlation is significant at the 0.01 level

Mean scores of the patients from treatment adherence scale and quality of life scale according to their demographic characteristics are presented in Table 1.

It was found that the score of treatment adherence was below the level of statistical significance in female patients (48.92 ± 13.62); married patients (48.53 ± 14.37); illiterate patients (45.61 ± 15.82); patients who do not regularly check hypertension follow-ups (44.05 ± 14.84); patients who received no hypertension training (46.59 ± 14.66) ($p < 0.05$) Table 1. Mean scores of the patients aged 77 and over (16.30 ± 16.13); married (20.09 ± 15.08); illiterate (17.06 ± 13.62); unemployed patients (14.95 ± 11.55); of the patients who currently use more than one hypertensive medication (15.36 ± 11.30); of patients who do not regularly check hypertension (16.61 ± 14.47); of the patients who received no hypertension training (46.59 ± 14.66) from physical domain of SF-36 quality of life scale were found to be significantly lower ($p < 0.05$) (Table I). Mean scores of the patients aged 77 and over (21.15 ± 17.45); married (25.94 ± 17.05); illiterate (24.18 ± 16.59); unemployed patients (23.21 ± 14.06); of patients who do not regularly check hypertension (22.94 ± 17.13); who received no hypertension training (23.86 ± 17.22) from mental domain of SF-36 quality of life scale were found to be significantly lower ($p < 0.05$). Both the quality of life and the treatment adherence are not associated with the duration of the illness ($p > 0.05$) (Table 1).

It was found that there was a positive significant relationship between the mean scores of treatment adherence scale and quality of life domains (physical health and mental health) of the hypertension patients who were included in the study ($p < 0.001$). We found that quality of life increased as treatment adherence increased Table 2.

Discussion

In this study, regularly check hypertension and receiving training about the disease and treatment are the two important factors that affect patients' treatment adherence and quality of life. 55.9% of the patients regularly check hypertension and 43.2% of this group went controls once in three months. The fact that approximately half of the study group failed to have their blood pressure measured on regular basis and failed to undergo medical control indicate that they do not pay due attention to the disease. In fact, blood pressure

should be measured on regular basis and certain examinations should be made in at least once in six months. The findings of the present study are consistent with the findings of previous studies. Col, Ozdemir and Ocaktan (2006) reported that only 41.8% of patients regularly check hypertension (Col, Ozdemir and Ocaktan 2016).

We found that the majority of patients (66.4%) received no training on hypertension. In a previous study has shown that many patients (82%) wanted to know more about their diseases. Information provided to the patients as a part of patient training has a positive impact on adherence to treatment (Handler 2005). Certain well-planned studies clearly showed that training provided to patients helped to keep blood pressure under control (Grandi 2006).

The results of this study revealed that there was a statistically significant difference between gender and treatment adherence mean scores. It was found that male patients had higher adherence levels than females. On the other hand, findings of another study showed higher treatment adherence levels in females than males (Wang et. al. 2002). In other studies conducted in our country, it was determined that gender did not affect treatment adherence (Mert, Ozcakar and Kuruoglu 2011; Tumer 2016).

It was found that single hypertensive patients had higher treatment adherence levels than married participants. However, in another study it was reported that married individuals had higher treatment adherence levels which was attributed to perceived support from spouses (Cooper 2005; Gun and Korkmaz 2007). Higher treatment adherence levels in single patients when compared to married patients was attributed to experiencing no anxiety of failing to fulfill the responsibility of having children or a spouse like the married individuals and desire to spare more time to themselves and to their treatment to get more life satisfaction.

The findings of this study pointed out that as educational level of the patients increased, their treatment adherence increased as well. However, there are studies showing that education level does not affect treatment adherence (Mert, Ozcakar and Kuruoglu 2011; Gun and Korkmaz 2007; Wang et. al. 2014). The fact that increased educational level improved adherence to treatment can be explained by increased awareness to diseases and treatment process in parallel to increased educational level.

We found that regularly check hypertension patients improved treatment adherence. There is a large body of research reporting that training attempts improved medication adherence and healthy lifestyle behaviors and significantly decreased blood pressure values of hypertensive patients (Rudd et. al. 2004). In this study, it is found that receiving education of hypertension improved patients' treatment adherence. In a study conducted in our country, it is stated that the rate of non-adherence is high in patients who are not informed about their diseases and medicines (Anadol and Discigil 2009).

Results of the study showed that as age increased, physical and mental health mean scores significantly decreased. In a community-based study by Bardage et al (2001); it was expressed that the quality of life scores decreased as the age increased in patients with hypertension (Bardage and Isacson 2001). Aydemir et al, and Gocgeldi et al, found lower quality of life scores on health in older ages (Aydemir, Ozdemir and Koroglu 2005; Gocgeldi 2008).

Our findings showed that single-widowed patients had higher physical and mental health mean scores than those of married patients. In parallel to our study, Acaray and Pinar (2004) reported that single individuals had higher quality of life levels than those of married individuals (Acaray and Pinar 2004). It is believed that married individuals have lower quality of life levels since they have to experience more lifestyle changes, encounter more problems about marriage and have more responsibility and traditional roles.

Patients with high school and higher school were significantly higher quality of life. According to in previously studies, as the level of education increases, most quality of life scores are also increasing (Gocgeldi 2008; Li et. al. 2005). In this study conducted by Bolarinwa *et al* (2016) reported that there was a positive correlation between higher education and physical health (Bolarinwa 2016). High quality of life total score in patients with higher education might be attributed to the fact that as educational level increases, individuals have more knowledge on health protection and improvement.

In this study, patients physical health mean scores significantly varied in terms of jobs. Civil servants were observed to have the highest physical health mean scores while unemployed patients had the lowest physical health mean

scores. In this case, it was believed that unemployed patients receive less health care due to financial problems and thus have low physical health mean scores in quality of life scale.

The patients who used combined/single medication had significantly higher physical and mental mean health scores than those of the patients who used single and more than one medication. Combination therapies are a form of treatment that provides protection from high doses of side effects of drugs and improves treatment success (Sendur and Guven 2011).

According to the study, physical and mental health mean scores of the patients who received hypertension training and who do regularly check hypertension were significantly higher. Leung *et al* (2005) reported that knowledge level of hypertensive individuals increased and their lifestyle behaviors changed in a positive way following health education provided by nurses (Leung 2005). Receiving regular training on hypertension will help the patients to develop awareness about hypertension and to regulate their lifestyle in such a way to eliminate symptoms.

Finally, the findings of this study showed that treatment adherence was positively related with physical and mental health. It was found that patient adherence to hypertension treatment helps taking blood pressure under control, improving general well-being and reduction of workforce loss and complaints(Handler 2005). Previous research have been reported that physical and mental health components were positively correlated with treatment adherence (Zyoud et. al. 2013; Cotê , Farris and Feeny 2003). In a study conducted in our country, it was expressed that the quality of life was effective in the treatment adherence of hypertensive patients (Gun and Korkmaz 2007). Bolarinwa *et al* (2016) reported that treatment adherence was only related to the physical component in hypertensive patients(Bolarinwa 2016). It was believed that quality of life of hypertensive patients with improved treatment adherence increased due to blood pressure control, improved general well-being and decreased complaints.

Limitations

The limitation of this study is that it consisted of a small sample size and that the study was done in single Hospital in Tukey.

Conclusion

It was found that marital status, education, go to regular check and receiving hypertension training has affected both treatment adherence and quality of life in hypertension patients. Hypertensive patients with high treatment adherence had high scores from quality of life. The results of this study will help to health care staff who care for patients with hypertension to identify the groups to be trained and to identify new strategies for increasing adherence. Many factors have been identified that affect quality of life and adherence treatment in the literature. For this reason, it is suggested to carry out new studies evaluating different factors that might affect the quality of life and adherence treatment.

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