


# Evaluation of Oral Anticoagulant Usage Satisfaction in Home Care Patients Using Warfarin

## Varfarin Kullanan Evde Bakım Hastalarında Oral Antikoagülan Kullanım Memnuniyetinin Değerlendirilmesi

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### ABSTRACT

**Objective:** Warfarin is the most commonly used oral anticoagulant for the prevention and treatment of thromboembolic diseases. However, the difficulty of treatment management adversely affects patient satisfaction. The objective of this study is to measure the satisfaction of using warfarin among home care patients and determine the factors affecting their satisfaction levels.

**Methods:** This descriptive study was performed with patients who used warfarin and registered at the Home Health Care Services Unit of a tertiary hospital between May 2017 and November 2017. Importantly, the sociodemographic and clinical features of the patients were determined. Patients' satisfaction with drug use was evaluated using the Duke Anticoagulant Satisfaction Scale (DASS).

**Results:** The ages of 97 patients included in the study ranged from 19 to 92 years; moreover, 71.1% (n=69) of the patients were women. In total, 41.2% (n=40) of the patients have had haemorrhagic events during the use of warfarin. The DASS mean score of the patients was 57.67±14.56, 20.46±5.89 for the limitations with the treatment, 21.54±7.46 for the hassles and burdens, and 15.67±4.87 for the positive impacts. It was determined that the number of additional chronic diseases and bleeding conditions while using warfarin had a significant effect on the total score and subscale scores of DASS (for total score, p=0.046; for subscale scores, p<0.001) and reduced satisfaction.

**Conclusion:** This study found that satisfaction with warfarin use was not poor in home care patients, but the history of bleeding and the number of additional chronic diseases worsened the treatment satisfaction. It is believed that their satisfaction can be increase, if counselling interventions are planned according to the needs of patients.

**Keywords:** Anticoagulants, homecare services, patient satisfaction, warfarin

### ÖZ

**Amaç:** Varfarin; tromboembolik hastalıkların önlenmesi ve tedavisinde en sık kullanılan oral antikoagülandır. Ancak tedavi yönetiminin zorluğu; tedaviye uyumu ve hasta memnuniyetini olumsuz etkilemektedir. Bu çalışmada; varfarin kullanan evde bakım hastalarının ilaç kullanımına bağlı memnuniyetini ölçmek ve memnuniyet düzeylerini etkileyen faktörleri saptamak amaçlanmıştır.

**Yöntemler:** Bu çalışma; tanımlayıcı nitelikte olup Mayıs 2017-Kasım 2017 tarihleri arasında üçüncü basamak bir hastanenin evde sağlık hizmetleri birimine kayıtlı hastalardan varfarin kullananlar ile yapıldı. Hastaların sosyodemografik ve klinik özellikleri sorgulandı. İlaç kullanımına bağlı memnuniyeti değerlendirmek için Duke Antikoagülan Memnuniyet Ölçeği (DAMÖ) uygulandı.

**Bulgular:** Çalışmaya dahil edilen 97 hastanın yaşları 19 ila 92 arasında değişmekte olup %71,1'i (n=69) kadın idi. %41,2'si (n=40) varfarin kullanırken kanama yaşamış idi. Hastaların DAMÖ puan ortalaması 57,67±14,56; kısıtlılıklar alt boyut ortalaması 20,46±5,89, yükler ve zorluklar alt boyut ortalaması 21,54±7,46, olumlu etkiler alt boyut ortalaması 15,67±4,87 saptandı. Hastaların ek kronik hastalık sayısı ve varfarin kullanırken kanama geçirme öykülerinin olmasının DAMÖ toplam puanı ve bazı alt ölçek puanlarına anlamlı düzeyde etki ettiği (toplam puan için p=0,046; p<0,001, sırasıyla) ve memnuniyeti azalttığı saptandı.

**Sonuç:** Bu çalışmada; evde bakım hizmeti alan hastalarda varfarin kullanım memnuniyetinin kötü olmadığı ancak daha önce kanama geçirme öyküsü olması ve ek kronik hastalık sayısının tedavi memnuniyetini olumsuz etkilediği saptandı. Hastaların gereksinimlerine göre belirlenmiş danışmanlık girişimleri planlandığı takdirde memnuniyet düzeyinin artırılabilirliği düşünülmektedir.

**Anahtar kelimeler:** Antikoagülan, evde sağlık hizmetleri, hasta memnuniyeti, varfarin

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## INTRODUCTION

Home health and care services are defined as a comprehensive care model covering psychological, physiological and medical support services in the living environment of patients. This care model comprises follow-up care, diagnosis and post-treatment care of the elderly; visits of people with chronic disease, disability or recovery; or providing preventive health services to those without a health problem. A regular follow-up of patients using oral anticoagulant (OAC) drugs, especially warfarin, is a crucial part of home health care (1).

OAC drugs are used in both the treatment and prevention of diseases such as arterial and venous thromboembolism, heart valve diseases, atrial fibrillation and stroke. As the frequency of such diseases, which are important causes of morbidity and mortality, increases with ageing, there is also an increase in the use of OAC drugs (2,3). These drugs inhibit the coagulation event or reduce the coagulation ability of the blood by disrupting the function or synthesis of coagulation factors (4).

Warfarin, a vitamin K antagonist, is the first-choice OAC drug for the prophylaxis and treatment of thromboembolic diseases (5). Many complications can arise during its usage (6). It holds a vital importance in keeping the international normalised rate (INR) value, which is used in evaluating the drug efficacy at the target limit (7). In warfarin treatment, the lack of standardised dosing, narrow treatment intervals, the need for a strict laboratory follow-up, interaction of multiple drugs and nutrients, and the risk of major and minor side effects negatively impact the benefits and reliability of the drug and decrease the quality of life (8-10).

It was observed that the majority of the patients had insufficient knowledge about anticoagulant treatment management and that the treatment could not be managed well due to the complications arising from bleeding and multiple drug use. Especially with the advancement of age, patients' compliance with the treatment decreased (11-13).

Although it is known that compliance with the treatment is crucial for patient satisfaction, some measurement tools have been developed to determine the treatment satisfaction in patients using anticoagulants (11,14-16). There are a limited number of studies investigating the satisfaction of these patients and effects on treatment (13,17-21).

The objective of this study is to measure the satisfaction of patients who were receiving home care services due to warfarin use and, also, evaluate the relationship between patients' sociodemographic and clinical characteristics along with their satisfaction levels.

## METHODS

This prospective study was planned as a single-centre, descriptive study. Ethics committee approval was obtained from the relevant institution on 05.04.2017 (approval number: 36). The study was conducted in compliance with the Declaration of Helsinki's recommendations. The objective of the study was explained to all

the participants, and their informed consent was obtained before their participation in the study.

## Study Population

The study was conducted between 01.05.2017 and 01.11.2017 with patients who were registered to Home Health Care Services of a tertiary hospital and were receiving warfarin treatment. In total, 97 people aged 18 years and above who did not have any communication problems and agreed to participate in the study were included. Patients aged less than 18 years, those with severe psychiatric diseases, and those who could not communicate verbally were excluded from the study.

## Data Collection Tools

### Patient Information Form

The sociodemographic and clinical characteristics of the patients were questioned (determined) via the face-to-face interview technique using the patient information form prepared by us. It covers the questions regarding the sociodemographic (age, gender) and clinical features of the patients (the reason for using OAC, duration of use, whether they experience bleeding or thromboembolic events during the use of OAC or additional diseases).

### Duke Anticoagulant Satisfaction Scale

Duke Anticoagulant Satisfaction Scale (DASS), developed by Samsa et al. (14) in 2004, and the Turkish validity and reliability study, conducted by Yıldırım and Bayık-Temel (13) in 2014, were used to evaluate patients' satisfaction with drug use. This scale, which allows health care professionals to evaluate the quality of life and satisfaction of patients receiving anticoagulant treatment, shows the patient's perception of treatment, quality of life and the level of disease management. It is a 7-point Likert-type scale comprising 25 items and a 3-factor structure: "Limitations", "burdens and difficulties" and "positive effects". It is measured with a rating of total score of the scale and the average score of each subdimension: "1= none", "2= very little", "3= a little", "4= moderately", "5= a bit more", "6= much" and "7= very much". In the scale, questions 17, 18, 19, 21, 23 and 25 are reverse-coded. The lowest score on the scale is 25, and the highest score is 175 points. High scores indicate a poorer quality of life and satisfaction with anticoagulant treatment (13,14). The alpha coefficient (0.89) determined for the overall scale form and the alpha coefficients (0.78-0.91) determined for the scale and its subdimensions are considered to be highly reliable (13).

### Statistical Analysis

IBM SPSS Statistics 22 (IBM SPSS, Turkey) programme was used for the statistical analysis of this study's data. While evaluating the data, the compliance of the parameters to the normal distribution was evaluated with the Shapiro-Wilk test. In addition to descriptive statistical methods (mean, standard deviation, frequency), One-Way ANOVA test was used for intergroup quantitative data comparison with normally distributed parameters. The Tukey

honestly significant difference test and Tamhane's T2 test were used to determine the group that caused the difference. The Student's t-test was used for comparing the normally distributed parameters between the two groups. Significance was considered at the level of  $p < 0.05$ .

## RESULTS

This study was performed with 97 patients whose ages ranged between 19 and 92 years (mean:  $72.52 \pm 14.23$  years). Most of the participants were aged 65 years and above ( $n=72$ , 74.2%), and 22.7% ( $n=22$ ) of them were aged between 40 and 64 years. In total, 71.1% ( $n=69$ ) of the patients were women, 95.9% ( $n=93$ ) had an additional chronic disease, and 41.2% ( $n=40$ ) experienced bleeding under warfarin treatment. Table 1 shows the evaluation of patients according to their sociodemographic and clinical features.

Apart from existing diseases requiring anticoagulant use, the most common additional chronic diseases were hypertension (63.9%,  $n=62$ ), cerebrovascular diseases (33%,  $n=32$ ) and chronic ischemic heart disease (27.8%,  $n=27$ ).

As shown in Table 2, the mean total DASS score of the patients was  $57.67 \pm 14.56$  (minimum: 36, maximum: 103), the subdimension mean score of limitations was  $20.46 \pm 5.89$ , the subdimension mean score of burdens and difficulties was  $21.54 \pm 7.46$  and the subdimension mean score of positive effects was  $15.67 \pm 4.87$  (Table 2).

Table 3 shows the distribution of DASS items and responses.

Table 4 presents the evaluation of results according to the sociodemographic and clinical features of participants. It was determined that the number of additional chronic diseases other than diseases requiring the use of OAC and bleeding status while using warfarin had a significant effect on the total score and subscale scores of DASS.

A statistically significant relationship was found between the number of additional chronic diseases and the mean scale score ( $p=0.046$ ). The mean total score scores of patients with three or more chronic diseases were found to be significantly higher than those with one chronic disease and two chronic diseases ( $p^1=0.021$ ;  $p^2=0.038$ ) (Table 4).

A statistically significant relationship was found between the number of chronic diseases and the subdimension mean of burden and difficulties ( $p=0.022$ ). As a result of the binary comparisons made for the detection of difference, the average burden and difficulties subdimension of patients with three or more chronic diseases were found to be statistically significantly higher than those with a chronic disease ( $p=0.029$ ) (Table 4).

A statistically significant relationship was found between bleeding history and the total scale score averages ( $p < 0.001$ ). The total scale point averages of those who did not experience bleeding were statistically significantly lower than those who suffered minor bleeding ( $p=0.002$ ) and those who suffered major bleeding ( $p=0.001$ ) (Table 4).

A statistically significant difference was found between bleeding status in terms of the subdimension means of limitations and burden and difficulties ( $p=0.001$  and  $p=0.001$ , respectively). The subdimension mean scores of limitations and burden and difficulties of those who did not experience bleeding were statistically significantly lower than those who suffered major bleeding ( $p=0.001$  and  $p=0.007$ , respectively) (Table 4).

No statistically significant difference was found in terms of subscale mean scores of age, gender, causes of anticoagulant use, duration of anticoagulant use, thromboembolic events and total scale score, restrictions, burdens and difficulties and positive effects (Table 4).

**Table 1. Sociodemographic and clinical characteristics of the study population**

		n	%
Age groups	<40	3	3.1
	40-64	22	22.7
	≥65	72	74.2
Gender	Female	69	71.1
	Male	28	28.9
Additional chronic disease	No	4	4.1
	1-2	68	70.1
	≥3	25	25.8
Anticoagulant use reason	Atrial fibrillation	63	64.9
	Heart valve replacement	19	19.6
	Deep vein thrombosis	10	10.3
	Pulmonary embolism	5	5.2
Anticoagulant use period	<2 years	20	20.6
	2-5 years	32	33.0
	6-10 years	22	22.7
	≥10 years	23	23.7
History of bleeding	No	57	58.8
	Minor bleeding	30	30.9
	Major bleeding	10	10.3
Thromboembolic events	No	89	91.8
	Yes	8	8.2

Data are presented as number (percentage)

**Table 2. Evaluation of Duke Anticoagulant Satisfaction Scale results**

Subdimensions of the scale	Min-max	Mean ± SD	Cronbach's alpha
Limitation with treatment	11-42	$20.46 \pm 5.89$	0.756
Burdens and difficulties	11-44	$21.54 \pm 7.46$	0.834
Positive psychological impact	6-28	$15.67 \pm 4.87$	0.739
Total score	36-103	$57.67 \pm 14.56$	0.871

Data are presented as min-max and mean (SD).  
SD: standard deviation, Min: minimum, Max: maximum

## DISCUSSION

This study found that drug satisfaction was not deficient in home care patients using warfarin, but the history of bleeding during the use of warfarin and the presence of additional chronic disease

worsened treatment satisfaction. It was observed that age, gender, the reason for using OAC, duration of using OAC and having a thromboembolic event did not affect the overall satisfaction level and subdimensions of the scale.

**Table 3. Distribution of Duke Anticoagulant Satisfaction Scale items**

	None	Very little	A little	Moderately	A bit more	Much	Very much
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
1. How much does the possibility of experiencing bruising or bleeding restrict your participation in physical activities (e.g. housework, gardening, dancing, doing sports, and other activities)?	38 (39.2)	28 (28.9)	21 (21.6)	7 (7.2)	3 (3.1)	-	-
2. How much does the possibility of experiencing bruising or bleeding restrict your travel?	73 (75.3)	18 (18.6)	6 (6.2)	-	-	-	-
3. How much does the possibility of experiencing bruising or bleeding restrict the medical care you need (e.g. visiting a dentist, massage treatment, or going to another doctor)?	50 (51.5)	19 (19.6)	19 (19.6)	6 (6.2)	3 (3.1)	-	-
4. How much does the possibility of experiencing bruising or bleeding restrict your working life?	84 (86.6)	7 (7.2)	4 (4.1)	1 (1%)	-	1 (1)	-
5. When you consider all these features above, how much does the possibility of bruising or bleeding affect your daily life?	43 (44.3)	34 (35.1)	17 (17.5)	3 (3.1)	-	-	-
6. How much does the anticoagulant treatment restrict your food choices (diet)?	61 (62.9)	10 (10.3)	11 (11.3)	10 (10.3)	2 (2.1)	3 (3.1)	-
7. How much does anticoagulant treatment restrict you from drinking alcoholic beverages when you want?	93 (95.9)	2 (2.1)	2 (2.1)	-	-	-	-
8. How much does the anticoagulant treatment restrict using over-the-counter medicines (aspirin, ibuprofen, vitamins, herbal remedies)?	34 (35.1)	18 (18.6)	23 (23.7)	9 (9.3)	8 (8.2)	3 (3.1)	2 (2.1)
9. When you consider all these features above, how much does anticoagulant treatment affect your daily life?	33 (34)	43 (44.3)	17 (17.5)	3 (3.1)	1 (1)	-	-
10. How much does the anticoagulant treatment make it difficult for you to do your daily responsibilities?	70 (72.2)	17 (17.5)	9 (9.3)	1 (1)	-	-	-
11. How much does the anticoagulant treatment complicate your changing responsibilities when necessary?	72 (74.2)	17 (17.5)	4 (4.1)	4 (4.1)	-	-	-
12. How complex do you find the anticoagulant treatment?	12 (12.4)	16 (16.5)	24 (24.7)	21 (21.6)	19 (19.6)	5 (5.2)	-
13. How much time do you think you lost due to anticoagulant treatment?	19 (19.6)	42 (43.3)	20 (20.6)	5 (5.2)	6 (6.2)	4 (4.1)	1 (1)
14. How much do you think the anticoagulant treatment is frustrating?	28 (28.9)	29 (29.9)	20 (20.6)	8 (8.2)	6 (6.2)	5 (5.2)	1 (1)
15. How much do you think the anticoagulant treatment is demoralising?	21 (21.6)	30 (30.9)	28 (28.9)	8 (8.2)	8 (8.2)	2 (2.1)	-
16. When you consider all these features above, how much difficulty/burden does anticoagulant treatment bring to you?	16 (16.5)	35 (36.1)	29 (29.9)	7 (7.2)	6 (6.2)	3 (3.1)	1 (1)
20. How much do you worry if you experience bruising and bleeding due to your anticoagulant treatment?	4 (4.1)	3 (3.1)	12 (12.4)	15 (15.5)	24 (24.7)	33 (34)	6 (6.2)
22. When you consider all these features above, how much does the anticoagulant treatment have a negative effect on your life?	30 (30.9)	37 (38.1)	21 (21.6)	1 (1)	3 (3.1)	4 (4.1)	1 (1)
24. Compared to the medical treatments you have taken, what is the difficulty of managing the anticoagulant treatment for you?	13 (13.4)	35 (36.1)	24 (24.7)	9 (9.3)	8 (8.2)	6 (6.2)	2 (2.1)

**Table 3. (Cont.) (opposite questions). Distribution of Duke Anticoagulant Satisfaction Scale items**

	Very much n (%)	Much n (%)	A bit more n (%)	Moderately n (%)	A little n (%)	Very little n (%)	None n (%)
17. When you consider all these features above, how much do you trust yourself in maintaining anticoagulant treatment?	34 (35.1)	43 (44.3)	12 (12.4)	4 (4.1)	4 (4.1)	-	-
18. How well do you think you understand the medical causes of your anticoagulant treatment?	7 (7.2)	24 (24.7)	16 (16.5)	18 (18.6)	19 (19.6)	12 (12.4)	1 (1)
19. How much do you feel safe due to your anticoagulant treatment?	14 (14.4)	31 (32)	26 (26.8)	5 (5.2)	15 (15.5)	4 (4.1)	2 (2.1)
21. When you consider all these features above, how much does the anticoagulant treatment have a positive effect on your life?	12 (12.4)	37 (38.1)	32 (33)	10 (10.3)	4 (4.1)	2 (2.1)	-
23. When you consider all these features above, how much do you satisfied with the anticoagulant treatment?	12 (12.4)	41 (42.3)	28 (28.9)	11 (11.3)	2 (2.1)	3 (3.1)	-
25. To what extent would you recommend this type of treatment to someone who has to start an anticoagulant treatment due to the disease or treatment?	39 (40.2)	34 (35.1)	17 (17.5)	5 (5.2)	2 (2.1)	-	-

As mentioned, our study group comprises people who used warfarin for any reason and needed home care services because of additional diseases and/or advanced age, etc. Therefore, it was concluded that even if they are limited in terms of working life, daily work and travel, they are not adversely affected by warfarin use.

Home health and care services are provided to patients of any age group with chronic diseases that restricts their daily life activities, mostly for patients aged 65 and over (22). Karaman et al.'s (23) study determined that 88.1% of the patients were aged 65 years and above, and 61.4% were women. In many studies, the average age of patients receiving anticoagulant treatment was found to be above 55 years (19,20,24). Our study is similar to the studies performed in terms of sociodemographic features. Similar to the literature, in our study, almost all patients (95.9%) had a comorbid disease accompanying their current disease (10,19).

In most studies investigating warfarin use, atrial fibrillation was found as the most common warfarin treatment cause (25). Sjögren et al. (26) found that the most common indication was atrial fibrillation with a ratio of 68%, and Rojas-Fernandez et al. (27) reported this ratio as 63%. In our study, the most common indication for warfarin use was atrial fibrillation, which complies with the literature.

Almeida et al. (18) found that the rate of patients using warfarin for 1 year or more was 79.2%. Connock et al. (7) and Appelboam and Thomas stated that OAC drugs should generally be used for a long time. Our study determined that the majority of patients (79.4%) had been using warfarin for two years and longer, and this finding is in line with the literature.

In the original study wherein DASS was developed by Samsa et al. (14), the total scale mean score was found as  $55.0 \pm 17.6$ . This mean score was found as  $57.9 \pm 16.5$  in Pelegrino et al.'s (16) study, as  $46.4 \pm 8.6$  in Oliveira-Kumakura et al.'s (20) study conducted on patients with stroke, and as  $67.1 \pm 18.2$  in another study (18). In a study comparing warfarin with other anticoagulants, warfarin satisfaction was found to be slightly lower than other drugs (28).

When the studies conducted in our country are considered, Yıldırım and Bayık-Temel (13) found the total scale mean score as  $85.0 \pm 25.1$  where they adapted the scale to Turkish, whereas Mert et al.'s (17) study of elderly patients found the score as  $68.9 \pm 22.6$  and Uçar's (21) thesis study found the score of  $61.71 \pm 19.34$ . The study results of Yıldırım and Bayık-Temel (13) and Mert et al. (17) demonstrate that satisfaction with anticoagulant use is worse in our country.

Our study obtained a total average score of  $57.67 \pm 14.56$ ; hence, we conclude that patients who received home health care were better satisfied and perceived the problems they experienced less. It is believed that factors such as a regular follow-up of patients receiving home health services, lack of additional burdens such as hospital appointments and transportation costs, and sharing responsibilities with caregivers contribute to the satisfaction perception, thereby improving the perception of the patients' home health services.

Previous studies have shown that patients experience more problems and adverse effects as they get older (12,18). Almeida et al. (18) found that the satisfaction and quality of life perception of patients in the age group of 41-65 years were better than the patients aged 65 years and older. Although no significant relationship was found between the age factor and satisfaction level in our study, this situation is believed to be facilitated by the

**Table 4. Evaluation of results according to sociodemographic and clinical features of participants**

		Total scale score	Limitations with the treatment	Inconvenient with the treatment	Positive impact
		Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Age	<65	57.21±13.81	20.92±6.36	20.72±7.04	15.48±5.08
	≥65	57.86±14.9	20.31±5.75	21.82±7.62	15.74±4.82
	p <sup>1</sup>	0.828	0.655	0.528	0.822
Gender	Female	57.29±13.8	20.41±5.24	21.39±7.36	15.49±4.86
	Male	58.61±16.5	20.61±7.35	21.89±7.81	16.11±4.95
	p <sup>1</sup>	0.689	0.880	0.766	0.576
Anticoagulant use reason	Atrial fibrillation	59.57±15.01	20.95±6.01	22.21±7.9	16.41±4.62
	Heart valve replacement	53.74±11.53	19.74±5.67	20±4.75	14±5.76
	Deep vein thrombosis	56.1±17.39	19.3±7.04	22±8.11	14.8±4.37
	Pulmonary embolism	51.8±11.65	19.4±2.19	18±9.19	14.4±4.39
	p <sup>2</sup>	0.339	0.740	0.485	0.226
Anticoagulant use period	<2 years	59.2±16.64	20.55±6.13	21.95±7.86	16.7±5.24
	2-5 years	56.25±12.36	20.25±6.48	20.59±6.31	15.41±4.58
	6-10 years	58.55±15.11	20.32±5.66	22.45±7.99	15.77±4.51
	≥10 years	57.48±15.7	20.83±5.36	21.61±8.37	15.04±5.4
	p <sup>2</sup>	0.898	0.986	0.828	0.716
Chronic disease number	1	55.27±14.44	19.63±5.6	20.1±7.23	15.53±5.43
	2	56.58±14.69	20.53±6.71	20.76±6.58	15.29±5.21
	≥3	64.32±13.27	22±4.7	25.24±8.4	17.08±3.45
	p <sup>2</sup>	0.046*	0.332	0.022*	0.335
Bleeding	No	52.68±10.44	18.74±4.82	19.16±5.76	14.79±4.27
	Minor bleeding	63.17±13.98	22.27±5.67	24.13±7.44	16.77±5.06
	Major bleeding	69.6±23.16	24.9±8.33	27.3±10.64	17.4±6.65
	p <sup>2</sup>	0.000*	0.001*	0.000*	0.097
Thromboembolic events	No	58.06±14.83	20.42±6.1	21.75±7.47	15.89±4.87
	Yes	53.38±10.91	21±2.67	19.3±7.41	13.25±4.4
	p <sup>1</sup>	0.386	0.790	0.342	0.143

Data presented as mean (SD). SD: standard deviation, <sup>1</sup>Student's t test, <sup>2</sup>One-Way ANOVA test, \*p<0.05  
Note: Cases without chronic disease were excluded from the analysis due to the small number of cases

fact that treatment management getting difficult by age is shared with the caregiver and the health care team in patients receiving home care.

Uçar's (21) study found a significant relationship among gender, scale total score and subdimension mean scores; additionally, the study found that men were having lower satisfaction as compared to women. Moreover, Yıldırım and Bayık-Temel's (13) study found that gender does not affect satisfaction with OAC use. Our study, in which the level of satisfaction between men and women is similar, is compatible with Yıldırım and Bayık-Temel's (13) study.

It has been reported that the costs related to disease burden, hospitalisation and access to care services are incurred because of the emergence of complications of each chronic disease

(29,30). Yıldırım and Bayık-Temel's (13) study found that burdens and difficulties were experienced more often with an increasing number of chronic diseases. Furthermore, Almeida et al.'s (18) study showed that the presence of additional chronic disease negatively affected the treatment satisfaction, whereas another study found no significant relationship (21). In our study, it is believed that with the increase in the number of chronic diseases, the perception of satisfaction worsens, thereby increasing the burden and difficulties caused by warfarin use. It can be attributed to the burdens caused by chronic diseases and the increasing use of multiple drugs.

Almeida et al. (18) found that patients who received treatment for more than a year had more positive perceptions. Our study

found no relationship between treatment time and anticoagulant satisfaction, similar to the study performed by Mert et al. (17).

Previous studies have found that the side effects experienced during warfarin use negatively impacted the satisfaction level of patients (13,18). Furthermore, Sjögren et al.'s (26) study found that the patients had an annual risk of thromboembolic events of 2.65% and a major bleeding risk of 2.24%. Yıldırım and Bayık-Temel's (13) study found that the rate of bleeding was 35.2%. Almeida et al. (18) found the bleeding rate to be 37.5%. Yıldırım and Bayık-Temel (13) found that individuals with a history of bleeding had more problems in the subdimensions of restrictions, burdens and difficulties and had worse satisfaction. Our study observed that the state of having thromboembolic events did not affect the perception of satisfaction. However, those who experienced bleeding during treatment were found to have a higher total scale, and all the subdimension mean scores were higher than those who did not experience bleeding. Our study was found to be in compliance with the literature in this aspect. It is believed that the history of bleeding restricts patients more, increases their responsibilities, such as taking the medication regularly and not interrupting their INR follow-ups, thereby worsening their satisfaction.

### Study Limitations

The limitations of the study were that the study only included patients using warfarin, and the study had a relatively small sample size. Additionally, it is believed that the answers given to the questions about travel, work life and daily work asked to this group of patients who need home care service due to their presence of DASS may be misleading.

### CONCLUSION

As a result, it was found that satisfaction with warfarin use was not poor in patients receiving home care services but a history of bleeding complications while using warfarin and the presence of additional chronic disease worsened treatment satisfaction in our study.

The vast majority of home care patients experience difficulties in the management of medical processes due to advanced age, functional dependencies and chronic diseases. It is believed that consultancy attempts should be planned by health care professionals, and services should be expanded according to the needs of patients, especially those with bleeding problems, multiple morbidities and difficulties in going to control visits. Thus, patients' adherence to treatment and perception of satisfaction can be increased.

**Ethics Committee Approval:** Ethics committee approval was obtained from the relevant institution on 05.04.2017 (approval no: 36).

**Informed Consent:** The objective of the study was explained to all the participants, and their informed consent was obtained before their participation in the study.

**Peer-review:** Externally peer-reviewed.

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