

## Original Article

## The Satisfaction Levels of Patients Using Anticoagulants

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### Abstract

**Aim:** The aim of this study is to determine the anticoagulant satisfaction levels of anticoagulant used patients.

**Material and Method:** This descriptive research, study was conducted with 96 patients (35 males, 61 females; mean age  $61.18 \pm 13.15$ ) who visited a cardiology polyclinic of a hospital. A socio-demographic information form and the Duke Anticoagulation Satisfaction Scale (DASS) which assesses the needs and perceptions of patients who use anticoagulant were used as data collection tools. The validity and reliability study for the DASS was conducted by Yildirim and Temel. Its internal consistency coefficient is 0.89. In this study, its internal consistency coefficient was found to be .87. The data were analyzed using the SPSS 18.00 package program.

**Results:** The participants' DASS total mean score was found to be  $86.34 \pm 20.63$ . The patients' hassles and burdens sub-dimension mean scores were  $28.44 \pm 11.48$ , and their positive psychological impacts sub-dimension mean scores were  $25.44 \pm 7.74$ . Their limitations sub-dimension mean scores were  $32.44 \pm 12.24$ . A significant correlation was found between the age groups and the scale mean scores ( $p < .05$ ), while there was no significant correlation between their scores and education level or gender ( $p > .05$ ). A strong, positive correlation was also found between the limitations sub-dimension and the hassles and burdens sub-dimension of the scale ( $r: .729$ ,  $p < .001$ ). A negative, statistically significant correlation was found between the positive psychological impacts sub-dimension scores ( $r: -.316$ ,  $p < .01$ ). A strong, positive and statistically significant correlation was found between the hassles and burdens mean scores and DASS total mean scores ( $r: .860$ ,  $p < .001$ ).

**Conclusion:** This study revealed that the satisfaction levels and life quality perceptions of patients who received anticoagulant treatment were poor. Moreover, the anticoagulant satisfaction levels and life quality perceptions of younger patients were poorer. Further studies examining the satisfaction and life quality of anticoagulant used patients while using anticoagulant medicine should be conducted.

**Key words:** anticoagulant, patient satisfaction.

### Introduction

Anticoagulants are used to treat and prevent blood clots that may occur in blood vessels (Lip et al., 2014). They have a special role in treating chronic diseases in terms of frequency and duration of usage and the side effect potential (Asiret & Ozdemir, 2012). During the treatment with anticoagulants, patients experience certain problems which result from anticoagulant drugs due to the certain life-threatening complications such as ecchymosis, epistaxis, gingival bleeding, and hematuria (Durna, Akin, & Ozdilli, 2009). Sometimes these problems can be followed by

admission to a hospital and death (Alay, Demir, Atmaca, Esen, & Dilek, 2011).

Inadequate awareness of individuals using anticoagulants about their side effects, monitoring the laboratory tests, and interaction with food and nutrients can lead to these problems (Mercan & Enc, 2011). It is difficult for individuals to achieve satisfaction when these problems are frequently experienced (Durna et al., 2009; Yildirim & Temel, 2014)

Also, the occurrence of these problems is influenced by demographic characteristics,

polypharmacy regarding the disease process, presence of another disease, duration of disease, and awareness of individuals about the use of anticoagulants and their self-management (Casais, Meschengieser, Sanchez-Luceros, & Lazzari, 2005; Robert-Ebadi, Le Gal, & Righini, 2009). However, a limited number of studies conducted on this topic point out the necessity of assessing the satisfaction levels of individuals using anticoagulants, determining the factors that affect their satisfaction levels, and examining the effects of these results on the quality of life. Previous studies emphasized the importance of assessing the patient satisfaction.

Also, understanding the satisfaction and expectations of patients regarding the use of anticoagulants will guide health professionals to plan care and treatment, and improve the quality of care provided to patients (Yildirim & Temel, 2014).

This study aimed to examine the satisfaction levels of patients using anticoagulants.

### Materials and Methods

A descriptive research design was used for the study. It was conducted on 96 patients who applied to the cardiology polyclinic of Research Hospital at Atatürk University between May 2015 and January 2016 and were using anticoagulants for at least 6 months. The inclusion criteria of the study were as follows: older than 18 years; open to communicate; and applied to the hospital because of a problem related to using anticoagulant.

The data were collected using the Duke Anticoagulation Satisfaction Scale and a questionnaire including sociodemographic information. The Duke Anticoagulation Satisfaction Scale was developed by Samsa et al. (Samsa et al., 2004). The validity and reliability of the scale was assessed in Turkey by Yildirim and Temel.

The Duke Anticoagulation Satisfaction Scale comprised three subdimensions: limitations; hassles and burdens; and positive impacts. It included 25 items. Its internal consistency coefficient was 0.88. In the present study, the internal consistency coefficient for limitations, burdens and hassles, and positive impacts subdimensions was found to be 0.88, 0.88, and 0.91, respectively. The internal consistency coefficient of the Duke Anticoagulation Satisfaction Scale was 0.87 in this study.

The limitations subdimension of the scale included 1st to 9th and 20th items. The burdens and hassles subdimension included 10th to 16th, 22nd, and 24th items. The positive impacts subdimension included 17th to 19th, 21st, 23rd, and 25th items. A 7-point Likert scale helped the health professionals assess the quality of life and satisfaction of patients receiving anticoagulant treatment. The total score of the scale and the mean scores of its subdimensions were measured with the rating as follows: 1, not at all; 2, not much; 3, little; 4, moderately; 5, somewhat; 6, much; and 7, very much. The 17th, 18th, 19th, 21st, 23rd, and 25th items of the scale were reverse-coded. High scores indicated that the quality of life and satisfaction level with anticoagulant use was poor, which meant that the problems were experienced more often. The highest possible score obtained on the scale was 175, and the lowest score was 25 (Yildirim & Temel, 2014).

Before conducting the study, the ethics committee approval was obtained and also permission was received from the institution where the study was conducted. The patients were informed about the study and assured about the confidentiality of their information, and that it would not be used for any other purposes. The patients who agreed to participate in the study were included. The data were collected by visiting the waiting area for polyclinic patients every day. Face-to-face interviews with the participants were conducted.

The frequency distributions of data and descriptive and cross-tabulations were created using Statistical Package for the Social Sciences 18.0 statistical program. The normality analysis of the data was performed using the Kolmogorov–Smirnov goodness-of-fit test. For the binary group comparisons, the *t* test was used for the normally distributed data while the Mann–Whitney *U* test was used for the non-normally distributed data. For the comparison of more than two groups, the one-way analysis of variance (One-way ANOVA) was used for the normally distributed data while Kruskal–Wallis test was used for the non-normally distributed data. The Bonferroni correction was used for the subgroup comparisons of the data.

### Results

The mean age of the participants was  $61.18 \pm 13.15$  years. Of them, 63.5% were female and 53.1% were not educated. The disease duration

of patients was  $4.87 \pm 6.75$  on average, and the duration of their anticoagulant use was found to be  $1.30 \pm 0.45$ . Sociodemographic characteristics of the participants are shown in Table 1.

20.63. The burdens and hassles, positive impacts, and limitations subdimensions mean scores were  $28.44 \pm 11.48$ ,  $25.44 \pm 7.74$ , and  $32.44 \pm 12.24$ , respectively (Table 2).

The Duke Anticoagulant Satisfaction Scale mean score of the participants was found to be  $86.34 \pm$

<b>Table 1. Sociodemographic characteristics of participants</b>			
<b>Duration of disease</b>	Mean: $4.87 \pm 6.75$		
<b>Duration of anticoagulant use</b>	Mean: $1.30 \pm 0.45$		
		Number	Percentage
<b>Age</b>	40–50 years	22	22.9
	50–60 years	16	16.7
	Older than 60 years	58	60.4
<b>Sex</b>	Female	61	63.5
	Male	35	36.5
<b>Educational level</b>	No	52	53.1
	Elementary school and above	44	46.9
<b>The type of anticoagulant</b>	Warfarin	36	37.5
	Acetylsalicylic acid	46	47.9
	Heparin	14	14.6

**Table 2. The Duke Anticoagulant Satisfaction Scale and its subdimensions mean scores**

	Min.	Max.	Mean $\pm$ SD
Burdens and hassles	9	54	$28.44 \pm 11.48$
Positive impacts	7	42	$25.44 \pm 7.74$
Limitations	11	63	$32.44 \pm 12.24$
The Duke Anticoagulant Satisfaction Scale total	40	134	$86.34 \pm 20.63$

SD: Standard deviation.

**Table 3. Comparison of educational level and sex and Duke Anticoagulant Satisfaction Scale mean scores**

	<b>Limitations</b>	<b>Burdens and hassles</b>	<b>Positive impacts</b>	Duke Anticoagulant Satisfaction Scale
<b>Education</b>	<b>Mean ± SD</b>	<b>Mean ± SD</b>	<b>Mean ± SD</b>	<b>Mean ± SD</b>
No	33.15 ± 11.02	28.65 ± 10.70	25.65 ± 8.03	87.46 ± 18.77
Elementary school and above	31.61 ± 13.61	28.20 ± 12.47	25.20 ± 7.47	85.02 ± 22.79
	<i>t</i> : 0.61; <i>P</i> > 0.05	<i>t</i> : 0.19; <i>P</i> > 0.05	<i>t</i> : 0.28; <i>P</i> > 0.05	<i>t</i> : 0.57; <i>P</i> > 0.05
<b>Sex</b>	<b>Mean ± SD</b>	<b>Mean ± SD</b>	<b>Mean ± SD</b>	<b>Mean ± SD</b>
Female	33.06 ± 12.05	29.45 ± 11.27	25.06 ± 7.76	87.59 ± 20.26
Male	31.37 ± 12.68	26.68 ± 11.80	26.11 ± 7.79	84.17 ± 21.39
	<i>t</i> : 0.650; <i>P</i> > 0.05	<i>t</i> : 1.140; <i>P</i> > 0.05	<i>t</i> : 0.636; <i>P</i> > 0.05	<i>t</i> : 0.780; <i>P</i> > 0.05
<b>Age groups</b>	<b>Mean ± SD</b>	<b>Mean ± SD</b>	<b>Mean ± SD</b>	<b>Mean ± SD</b>
40–50 years	28.27 ± 11.51	24.90 ± 12.35	24.95 ± 7.86	78.13 ± 21.81
50–60 years	31.43 ± 9.83	24.12 ± 9.04	27.00 ± 7.94	82.56 ± 16.36
Older than 60 years	34.31 ± 12.85	30.98 ± 11.20	25.20 ± 7.14	90.50 ± 20.40
	<i>F</i> : 2.047; <i>P</i> > 0.05	<i>F</i> : 3.801; <i>P</i> < 0.05*	<i>F</i> : 0.389; <i>P</i> > 0.05	<i>F</i> : 3.341; <i>P</i> < 0.05*
<b>Anticoagulant drug</b>	<b>Mean ± SD</b>	<b>Mean ± SD</b>	<b>Mean ± SD</b>	<b>Mean ± SD</b>
Acetylsalicylic acid	29.77 ± 10.94	27.36 ± 10.53	26.63 ± 6.74	83.77 ± 17.64
Warfarin	33.65 ± 13.40	28.36 ± 12.71	25.26 ± 8.81	87.28 ± 23.12
Heparin	34.20 ± 8.65	31.00 ± 9.46	22.90 ± 6.87	88.10 ± 18.96
	<i>F</i> : 1.197; <i>P</i> > 0.05	<i>F</i> : 0.389; <i>P</i> > 0.05	<i>F</i> : 0.943; <i>P</i> > 0.05	<i>F</i> : 0.347; <i>P</i> > 0.05

**Table 4. The correlation analysis Duke Anticoagulant Satisfaction Scale total and its subdimensions**

	Limitations	Burdens and hassles	Positive impacts
Limitations			
Burdens and hassles	0.729**		
Positive impacts	-0.316**	-0.344**	
Duke Anticoagulant Satisfaction Scale total	0.880**	0.860**	-0.003

\*\* $P < 0.001$ .

The comparison of the educational levels and the Duke Anticoagulant Satisfaction Scale mean scores of the participants showed that the Duke Anticoagulant Satisfaction Scale total mean scores and the limitations subdimension mean scores of the participants who were not educated were higher than the mean scores of those who had education (Table 3). However, no statistically significant difference was found between the groups ( $P > 0.05$ ).

The comparison of sex and Duke Anticoagulant Satisfaction Scale scores showed that except for the positive impacts subdimension, female participants obtained higher scores on the scale than male participants did. The differences between them were found to be statistically insignificant for subdimensions and total scale ( $P > 0.05$ ).

The Duke Anticoagulant Satisfaction Scale total mean scores ( $90.50 \pm 20.40$ ) and its limitations ( $34.31 \pm 12.85$ ), and burdens and hassles ( $30.98 \pm 11.20$ ) subdimensions mean scores were found to be higher in participants aged more than 60 years compared with other age groups. However, the difference between the groups was not statistically significant in terms of limitations and positive impacts subdimensions, while it was found to be statistically significant in terms of burdens and hassles subdimension and the Duke Anticoagulant Satisfaction Scale ( $P < 0.05$ ).

The Duke Anticoagulant Satisfaction Scale total score and its limitations and burdens and hassles subdimensions mean scores in terms of the type of anticoagulant used were found to be higher in patients using heparin; the difference was found to be statistically insignificant ( $P < 0.05$ ).

The correlation analysis was performed to examine the correlation between the total scale and its subdimensions mean scores. A strong, positive, and statistically significant correlation was found between the limitations and the hassles and burdens subdimensions of the scale ( $r: 0.729$ ;  $P < 0.001$ ). A negative, statistically significant correlation was found between the positive impacts subdimension scores ( $r: -0.316$ ;  $P < 0.01$ ). A strong, positive, and statistically significant correlation was found between the hassles and burdens subdimension mean scores and the Duke Anticoagulant Satisfaction Scale total mean scores ( $r: 0.860$ ;  $P < 0.001$ ).

A strong, positive, and statistically significant correlation was found between the limitations subdimension mean scores and the Duke Anticoagulant Satisfaction Scale total mean scores.

### Discussion

This study aimed to assess the satisfaction levels of patients using anticoagulants and the effects of their educational level, sex, age, and anticoagulant they were using on their satisfaction levels.

The total mean score of the Duke Anticoagulant Satisfaction Scale was found to be  $86.34 \pm 20.63$ . This finding indicated that the patients' satisfaction with the use of anticoagulant was at the moderate level. In the present study, the lowest subdimension mean score of the participants was found in the positive impacts subdimension ( $25.44 \pm 7.74$ ), while the highest subdimension mean score was found in the limitations subdimension ( $32.44 \pm 12.24$ ).

Similarly, in a study conducted by Yildirim and Temel, the Duke Anticoagulant Satisfaction Scale mean score was found to be  $85.0 \pm 25.1$ ; the mean scores for the burdens and hassles, positive impacts, and limitations subdimensions were  $31.1 \pm 13.2$ ,  $22.3 \pm 8.1$ , and  $31.7 \pm 12.36$ , respectively (Yildirim & Temel, 2014).

The burdens and hassles subdimension mean scores and Duke Anticoagulant Satisfaction Scale total mean score of the participants were found to be higher and statistically significant in the age group older than 60 years compared with other age groups. High scores indicated that the quality of life and satisfaction level with anticoagulant use was poor, which meant that the problems were experienced more often. It has been reported in the literature that the satisfaction with anticoagulant use decreased with increasing age; also, the number of problems experienced increased particularly at the age of 75 years and above (Robert-Ebadi et al., 2009). This result is in line with the findings of the present study. However, Yildirim and Temel (2014) also reported in their study that as the age increased, the level of satisfaction with the anticoagulant treatment decreased. (Yildirim & Temel, 2014)

In the present study, the educational level was found not to affect the Duke Anticoagulant Satisfaction Scale total score and its subdimensions mean scores; 53.1% of the participants were not educated. Yildirim and Temel also found in their study that education did not affect the Duke Anticoagulant Satisfaction Scale mean scores. This result was in line with the present study. Almeida et al. reported in their study that low education level affected the quality of life in terms of anticoagulant use (de Queiroz Almeida, de ACB Noblat, Passos, & do Nascimento, 2011; Ynsaurriaga, Peinado, & Ormaetxe Merodio, 2014).

The low education level and the high mean scores on the scale might have resulted from the fact that the patients did not have adequate knowledge about the use of anticoagulants. The experience of bleeding, poor quality of life, having knowledge about the complications of anticoagulant treatment, and attention and self-sufficiency in using the anticoagulant influence the occurrence of problems experienced by patients using anticoagulants and their quality of life (Ynsaurriaga et al., 2014).

Education did not affect the Duke Anticoagulant Satisfaction Scale scores, probably because the

educational level was too low to be able to make a difference between the scores. However, Mohamed et al. reported in their study that educated patients perceived the anticoagulant treatment more positively (Mohamed, Abdul Razak, & Hashim, 2015).

In the present study, sex was found not to affect the Duke Anticoagulant Satisfaction Scale total score and its subdimensions mean scores. This finding was similar to the results of the study by Yildirim and Temel. It meant that female and male patients experienced similar outcomes in using anticoagulants (Yildirim & Temel, 2014). In their study, Casais et al. found that being female and the risk of bleeding affected the satisfaction levels in terms of using anticoagulants (Casais et al., 2005). However, the number of complaints associated with menstrual bleeding was less in the present study due to high mean age and a high number of patients aged more than 60 years; consequently, the Duke Anticoagulant Satisfaction Scale scores of female and male participants were not different.

The type of anticoagulant used was found not to affect the satisfaction levels of the participants. This might be because of the similar side effects of anticoagulants and a high number of participants using acetylsalicylic acid.

The correlation analysis showed that the burdens and hassles subdimension had a strong and positive correlation with the limitations subdimension, while it had a moderate and negative correlation with the positive impacts subdimension. This finding indicated that as the limitations increased, the burdens and hassles also increased, but as the positive impacts increased, the burdens and hassles decreased.

## Conclusion

The present study demonstrated that education, sex, and the type of anticoagulant used did not affect the Duke Anticoagulant Satisfaction Scale total and its subdimensions mean scores. However, the Duke Anticoagulant Satisfaction Scale total mean scores and its burdens and hassles subdimension mean scores were higher in the age group older than 60 years compared with other age groups. Based on these results, interventional studies should be conducted to decrease the number of factors influencing the complications related to the use of anticoagulants and the satisfaction level of patients and also to assess the effects of other factors.

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