An- Najah National University

Faculty of Graduate Studies

The Relationship between the Self-Efficacy and Treatment Satisfaction to Anticoagulant Therapy: A Cross-Sectional Study Among Palestinian Patients in Jerusalem

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Dedication

First and foremost, my deepest gratitude goes to the best of planners, the gracious and most merciful

Allah

This endeavor was only possible through his innumerable blessings and provisions.

I am heavily indebted to my parents, my lovely mom who taught me the meaning of strength, and my loving dad who taught me the art of never giving up

I am forever grateful for the best support system that supported me through every step, my dearest and most precious daughters, **Aseel**, **Haddel**, **Sadeel**, **Batul**, **Nura,** and **Jury**. My little sweet son **Ahmad**.

My rock and backbone from the start of my educational journey, my beloved husband and best friend

Husam

who's supported me through every obstacle and hurdle.

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الإقرار

أنا الموقعة ادناه، مقدمة الرسالة التي تحمل العنوان:

The Relationship between the Self-Efficacy and Treatment Satisfaction to Anticoagulant Therapy: A Cross-Sectional Study Among Palestinian Patients in Jerusalem

أقر بأن ما اشتملت عليه هذه الرسالة إنما هو نتاج جهدي الخاص، باستثناء ما تمت الإشارة إليه حيثما ورد، وأن هذه الرسالة كاملة، أو أي جزء منها لم يقدم من قبل لنيل اي درجة أو لقب علمي أو بحثي لدى أي مؤسسة تعليميه أو بحثية أخرى.

Declaration

The work provided in thesis, unless otherwise referenced, is the researcher's own work and has not been submitted elsewhere for any other degree or qualification.

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Date: **التاريخ:** 26/8/2021

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List of Abbreviations

ACTS	Anti-Clot Treatment Scale
AF	Atrial Fibrillation
BMI	Body Mass Index
CVD	Cardiovascular Disease
DOACs	Direct Oral Anticoagulants
DVT	Deep Vein Thrombosis
HF	Heart Failure
IHD	Ischemic Heart Disease
IRB	Institutional Review Boards
NIS	New Israeli Shekel
NOACS	New Oral Anticoagulants
PE	Pulmonary Embolism
PRO	Patient Reported Outcome
SES6C	Self-Efficacy for Managing Chronic Disease 6-Item Scale
SPSS	Statistical package for Social sciences
UFH	Unfractionated Heparin
VKAs	Vitamin K Antagonists

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Abstract

Background: Thromboembolic events are a common complicated health problem. Although anticoagulants have several positive effects on these conditions, they also have several characteristics that can strongly affect compliance and satisfaction, inducing dissatisfaction and reducing the patient's quality of life; patient's self-efficacy and satisfaction can increase compliance and result in treatment success.

Objectives: This study aims to assess the association between treatment satisfaction and self-efficacy in a sample of patients from Palestine using anticoagulation therapy, and to determine the influence of socio-demographic and clinical factors on both aspects.

Methods: This was a cross-sectional study performed in Palestine. The Arabic version of the Anti-Coagulant Treatment satisfaction scale (ACTS) scale was used to assess treatment satisfaction. The Arabic version of Self-Efficacy for Managing Chronic Disease 6-Item Scale (SES6G) was used to assess self-efficacy.

Results: A total of 300 patients using anticoagulants (average age 51.95 and SD of 17.98) were included. There is a weak correlation between total score, treatment satisfaction domain and self-efficacy ($r = 0.35$; $p = 0.00$).

Overall, the patients reported a moderate burden and benefit score; the mean and median of the acting burden were 43.30±10.45, and 43.30 (interquartile range: 36–51). The mean and median self-efficacy score were 38.41±9.88, and 39 (interquartile range: 33–46). The results showed that those how were younger (44.32±9.09, p<0.001), more highly educated (40.65±9.9, p<0.001), were employed (40.04±10.26, p=0.049), with a lower number of medications (39.32±9.95, p=0.029) and lower number of diseases (40.3±10.56, p=0.34) had a good predictor of self-efficacy behaviors. They also showed that males (45.01±9.88, p=0.006), married (44.29±10.26, p=0.005), and with higher monthly income (46.06±11.10, p=0.001) had a higher ACTS burden score. In contrast, young (14.55±0.89, p=<0.001), married (12.01±2.14, p=0.003) female (12.07±2.26, p=0.015), normal weight (12.63±2.08, p=0.003), higher educational level (12.38±2.15, p<0.001) participants had a higher ACTS benefit score. Results also showed that new oral anticoagulants (NOACs) had a higher degree of self-efficacy and ACTS benefit scores (39.00±8.20, p=0.002; 13.07±1.89, p=0.001), respectively, than vitamin k antagonists (VKA).

Conclusions: Overall, these results found that there is a relation between treatment satisfaction and self-efficacy, and socio-demographic and clinical characteristics probably influence both. We found that there is a higher degree of self-efficacy and treatment satisfaction among patients using NOACs than those who used UFH/VKA. We also found an association between higher education, young, unemployed patients with a lower number of diseases and medications, and a good level of self-efficacy. In

addition, we found an association between being female, unmarried, have a low monthly income were more burdened, while young, male, unmarried, normal weight, higher educated, and having a lower number of diseases and medications, had a higher level of benefits scoring.

Chapter one

Introduction

1. Introduction

1.1 Definition and background

Anticoagulant drugs with different mechanism of action are indicated for many conditions, such as systemic embolism prevention in valvular heart disease, myocardial infarction (Samsa et al., 2004) atrial fibrillation-related stroke (Wei et al., 2018), pulmonary embolism (PE), deep vein thrombosis (DVT) (Prins et al., 2009) and cancer-associated thrombosis (Cohen et al., 2018). Anticoagulants can effectively reduce thromboembolic events and their recurrence. If non-anticoagulated, there is a significant increase in mortality rate in patients with stroke risk factors (Lip et al., 2015), morbidity and negative effects on the quality of life of the patients (Shilbayeh and Ibrahim, 2020). They may be used for a short period as a treatment but mostly for the remainder of the patient's lifetime.

Although anticoagulants have several positive effects on the disease, they also have several characteristics that can strongly affect compliance and satisfaction, inducing dissatisfaction and reducing the patient's quality of life (e.g. diet and activity restrictions, regular blood testing, bleeding and/or bruising). These side effects and burdens may lead to poor compliance and, as a result, to treatment failure (Prins et al., 2009).

Long-term therapy with anticoagulants, particularly with vitamin K antagonist (VKA), may be associated with low satisfaction and poor adherence (Shilbayeh and Ibrahim, 2020).

The measurement of patient satisfaction with anticoagulant therapy and their quality of life in clinical practice can reduce bleeding or thrombotic events (Samsa et al., 2004), as this satisfaction can increase compliance and as a result treatment success. Individual-level patient characteristics and preferences are important when selecting the appropriate anticoagulant therapy for each patient (Lutsey et al., 2018). This preference for 'shared decision-making' will improve the treatment experience of the patient by achieving treatment satisfaction (Benzimra et al., 2018). Treatment satisfaction was associated with better compliance and persistence, but also with lower treatment burden or regimen complexity (Barbosa et al., 2012). This makes satisfaction for an individual patient an important factor in selecting or changing anticoagulant therapy in patients (Koretsune et al., 2017). On the other hand, treatment dissatisfaction may affect patients negatively, such as the quality of treatment regimen implementation and their participation in treatment, and even their intention to persist with the treatment (Barbosa et al., 2012).

Another aspect that may affect the success of a treatment and achieving its goal is the patient's self-efficacy. 'Self-efficacy' is a term that refers to the confidence that one has in the ability to follow the behaviors needed to obtain a desired goal or effect. It is a psychological concept that is used in association with chronic diseases and medication management. There has

been growing interest in the role of self-efficacy as a treatment outcome predictor (Kadden and Litt, 2011). Self-efficacy helps participants to have confidence and skills to manage their chronic conditions better (Brady et al., 2013). If the patient believes that they can take action to solve a problem, they become more ready to do it and feel more committed to this decision. Better health better outcomes have been found related to a strong sense of personal self-efficacy (Schwarzer, 2014). Self-efficacy has increasingly been recognized as an essential prerequisite of effective self-management of all chronic diseases (Freund et al., 2013, Tobias Freund et al., 2011), and so low self-efficacy is one of the main problems that require physical and mental rehabilitation (Xiao et al., 2018).

1.2 Problem statement

Thromboembolic events and many cardiovascular diseases are widely treated with anticoagulants, which have a great benefit to patients (Veitch et al., 2016) and have many characteristics that can affect patients' daily lives. Self-efficacy has increasingly been recognized as an essential prerequisite of effective self-management of all chronic diseases (Freund et al., 2013, Tobias Freund et al., 2011), and so low self-efficacy is one of the main problems that require physical and mental rehabilitation (Xiao et al., 2018).

Long-term therapy with anticoagulants, particularly with vitamin K antagonist (VKA), also may be associated with low satisfaction and poor adherence (Shilbayeh and Ibrahim, 2020).

The measurement of patient satisfaction with anticoagulant therapy and their quality of life in clinical practice can reduce bleeding or thrombotic events (Samsa et al., 2004). In addition, this satisfaction can increase compliance and treatment success.

1.3 Significance of study

A few studies have been established to study anticoagulant treatment satisfaction and self-efficacy, however these studies did not correlate the two concepts with each other. To the best of our knowledge, this study is the first of its type in Palestine. Therefore, this study will give baseline data and information about treatment satisfaction, self-efficacy and the relationship between the two, and their effect on treatment compliance, improving Qol, and better therapeutic outcome. Moreover, it will help healthcare providers to establish mechanisms that can achieve patient treatment satisfaction and train them to accept good self-efficacy.

1.4 Objectives

1.4.1 General objective

The main objective of the current study is to evaluate the relationship of treatment satisfaction with self-efficacy among patients on anticoagulant therapy.

1.4.2 Specific objectives

- To assess whether there is a relationship between patients' self-efficacy and treatment satisfaction with anticoagulant therapy.
- To assess factors associated with patients' self-efficacy in anticoagulant therapy.
- To assess factors associated with patients' treatment satisfaction with anticoagulant therapy.

Chapter Two
Literature Review

2. Literature Review

In recent years, greater interest has been shown in the study of treatment satisfaction. A Spanish study aimed to evaluate nonvalvular atrial fibrillation treatment satisfaction in patients on anticoagulants in Spain in 2018 (Fernández et al., 2018). To measure the anticoagulant treatment satisfaction, every patient completed the ACTS (Anti-Coagulant Treatment Satisfaction scale) questionnaire. The results were: of 1,309 patients, 31.0% were taking direct oral anticoagulants (DOACs) and (68.9%) vitamin K antagonists (VKAs). With regard to anticoagulation satisfaction (ACTS burdens scale 49.69±9.45; ACTS benefits scale 11.35±2.61), burdens were lower in men, patients with normal renal function, poly-medicated, no dependency and with moderate bleeding risk. Among patients taking VKAs, those with an optimal time in the therapeutic range or a lower number of international normalized ratio INR exhibited lower burden. Lower perceived burdens were found among patients using DOACs. The authors found that men, who are young, with no dependency, low bleeding risk, and taking DOACs (vs VKAs) have higher benefit scores. The study concluded that there was a high degree of satisfaction among nonvalvular atrial fibrillation patients at the internal medicine department.

A sub-study of a multicenter research (SAKURA AF registry) that was conducted by tracking AF patients' clinical events, aimed to compare the

satisfaction of DOAC users and warfarin users, using the ACTS scale, to understand the advantages of DOACs over warfarin. In this study a total of 1475 patients were enrolled, 654 were DOAC users, and 821 were warfarin users. The results were: the burden scores were significantly higher (54.5 ± 6.3 versus 52.7 ± 6.9, $P < 0.0001$) and 'highly satisfied' (defined by score 48) was often obtained (87.8% versus 79.9%, $P < 0.0001$) among the DOAC users than among the warfarin users, but the baseline benefit scores among the DOAC users tended to be lower (9.8 ± 3.1 versus 10.1 ± 3.2, $P = 0.0513$) and 'highly satisfied' (defined by scores 12) to be less prevalent than those among the warfarin users (34.5% versus 40.0%, $P = 0.0767$).

The study concludes that there was higher treatment satisfaction with anticoagulants among patients taking DOACs than those taking warfarin in terms of treatment burden, but without evidence of benefit of prophylaxis against stroke. The reduced burden of DOACs and constant patient education regarding the benefit of stroke prophylaxis will lead to greater adherence of patients to their treatment plan and thus have a positive effect on clinical outcome.

A study has been conducted in the United States using the data from ORBIT-AF for AF patients taking warfarin and a completed ACTS scale questionnaire. The study aimed to determine the ACTS burden and benefit score association with multivariate aspects. A total of 1514 AF patients taking warfarin took part. The most burdened patients were female, young, paroxysmal AF, and using antiarrhythmic drugs. The study concludes that ACTS scores among AF patients taking warfarin provided independent

information beyond other metrics used in anticoagulation quality of care, and identified groups of patients using warfarin that have a high risk of dissatisfaction.

SAFARI, a French observational study that was published in 2016 (Hanon et al., 2016), aimed to investigate patient-reported satisfaction with treatment with rivaroxaban to prevent stroke in AF patients. A total of 405 non-valvular atrial fibrillation patients who had been previously treated with warfarin switched to rivaroxaban. The ACTS scale was used to measure anticoagulant treatment satisfaction. Compared with VK users, the patients' satisfaction improved after three months and persisted for six months. The study concluded that there is a good safety profile and encourages patient-reported outcome design studies.

Moreover, another Sudanese cross-sectional study that was published in 2017 (Eltayeb et al., 2017), evaluated patient satisfaction with oral anticoagulant therapies and adherence to them and identified the predictors of the two study domains. Just over half of the participants (50.5%) were satisfied with anticoagulant treatment. The study concludes that a multidisciplinary effort from healthcare providers is needed to ensure health education, alongside motivating patients continuously in order to increase treatment success, especially among patients with a low educational level.

Another observational Japanese study AGAIN was published in 2017 (Koretsune et al., 2017). The study aimed to investigate treatment

satisfaction changes among non-valvular AF (NVAF) patients after switching to apixaban from warfarin. The patients completed two ACTSs (one before and the other 12 weeks after medication change). The study concludes that NVAF Japanese patients' satisfaction with anticoagulant therapy improved after switching to apixaban from warfarin by reducing treatment burden.

A clinical trial (McCahon et al., 2011) compared the self-efficacy between self-managing warfarin-using patients and those receiving routine care (RC) and demonstrated a greater significant improvement among self-managing patients (Sawicki, 1999) (Cromheecke et al., 2000, Gadisseur et al., 2004). Self-managing patients may be more aware about any change in their INR due to their ability to measure it and take an adaptive action, their increased knowledge and their perceived greater self-efficacy.

The results suggested that the level of therapeutic control and patient self-management (PSM) affect self-efficacy, improving treatment-related quality of life (TRQoL).

There was a noticeable greater improvement in self-efficacy among patients compared with those receiving RC in the medium and high therapeutic range (TTR) groups. While no significant improvement at the lower level of therapeutic control in self-efficacy existed in comparison within PSM or with the RC arm of the study. This trial's results reinforce the evidence demonstrating that warfarin therapy self-management is an

effective and safe alternative to routine management (White et al., 1989, Douketis, 2001, Fitzmaurice et al., 2005, McCahon et al., 2007).

Chapter Three
Methodology

3.1 Study design

This study was a cross-sectional questionnaire-based analytical study to measure patients' self-efficacy and patients' treatment satisfaction and the relationship between both aspects among patients using anticoagulants.

3.2 Setting

Palestine consists of three geographically separated zones – the Gaza Strip and the West Bank –and Jerusalem the capital. East Jerusalem has hospitals network, the Red Crescent Maternity Hospital, the Saint John Eye Hospital, the Princess Basma Rehabilitation Center, St. Joseph's Hospital and Al-Makkased Hospital. The network plays a crucial role in the Palestinian health care system. This study was conducted in Jerusalem at AL-Makkased hospital.

3.3 Study population

The population of this study was patients from both genders, at any age over 18 from hospitals or outpatient clinics, using anticoagulants.

3.4 Sample size calculation and sampling procedure

Our study was a cross-sectional survey using the Stanford questionnaire. The study was undertaken in a group of patients who used anticoagulants attending at AL-Makkased hospital. Based on the expected population during the research period (n=1000 patients) and a 50% response

distribution, the needed sample size was about 278 with a confidence level of 95% and a margin of error of 5%. An automated software program, Raosoft sample size calculator: (http://www.raosoft.com/samplesize.html) was used to calculate the required sample size for this study. The intended sample size was raised to 300 individuals to reduce erroneous results and increase study reliability.

3.5 Inclusion and exclusion criteria

The inclusion criteria were as follows: patients over 18 using any type of anticoagulant drug; Arab nationality; able to read or understand Arabic. The exclusion criteria were as follows: patients refusing to participate in the study; and those previously diagnosed with mental diseases or severe cerebral vascular disease that may affect cognitive ability.

3.6 Data collection and management

This quantitative study used a questionnaire (see Appendix A) as an instrument to collect data from the respondents. The data collection forms in this study were adopted from two different scales, the ACTS scale and the SES6G scale.

The data collection form contains four sections:

- In the first section, we covered the socio-demographic factors provided by participants, such as age, gender (male, female), residency (city, village, or refugee camp), job, the primary healthcare centers they visit,

marital status, BMI and educational level (illiterate, primary, secondary or university).

- The second section of the questionnaire consists of questions related to clinical data including comorbid conditions (history of major bleeding, recent major surgery, cerebrovascular disease, cardiac disease, diabetes mellitus, hypertension, active cancer, and chronic liver and renal disease), risk of falls, laboratory findings (haemoglobin, platelets), the medications that are taken as anticoagulant therapy, the dosage and the duration of each medication.

- The third section is used to measure patients' treatment satisfaction to anticoagulant therapy using the ACTS scale. The ACTS scale is an anticoagulation-related quality of life measuring instrument, it is not a generic scale that is common for a wide range of individuals in different populations (e.g. general health, social function between specific disease patients and anticoagulation drug-user patients. This scale is a condition-specific one that focuses narrowly on the aspects of health-related quality of life that are specific to anticoagulant medications (Samsa et al., 2004). The ACTS questionnaire is an instrument used to measure treatment satisfaction with anticoagulant therapy through PRO. It consists of two parts: the first part includes 12 items that assess the perceived burden of anticoagulant treatment, and the second part consists of 3 items that assess the perceived benefits of anticoagulant treatment. It uses a 5-point scale of intensity (from 1 'not at all' to 5 'extremely'). Its burden total scores are reversed (higher

scores indicate less burden and vice versa) and range from 12 to 60, but the ACTS benefits total scores are directly scoring, ranging from 3 to 15 (Fernández et al., 2018, Suarez et al., 2016, Cano et al., 2012). The questionnaire has been profoundly tested for content validity, question difficulty measures, readability, item/person reliability in many languages (Cano et al., 2012), and Arabic language (Shilbayeh and Ibrahim, 2020, Shilbayeh and Ismail, 2021). We also registered our study with ePROVIDE - Mapi Research Trust and obtained permission for ACTS use (ID: 42874).

- The fourth section is used to measure patients' self-efficacy in anticoagulant therapy by using the SES6G. The SES6G is a valid and reliable instrument for assessing patients' self-efficacy in managing chronic diseases. It is a self-reporting instrument that can be used to assess the degree of confidence of the patient who is suffering from chronic disease in trying to manage their disease (Hu et al., 2015). It is the 6-item scale with a visual analogue, ranging from 1 (not at all confident) to 10 (totally confident). This scale covers several common domains across many chronic diseases, role function, emotional functions, symptom control and communicating with physicians. It is an important and reliable instrument for assessing self-efficacy in the management of different chronic diseases.

The data were collected by the pharmacist who met the patient in a clinic or pharmacy. Patients were advised that the questionnaire would take approximately 20 min to complete.

3.7 Ethical approval

All aspects of the study protocol, including access to and use of patient clinical information, were authorized by the Institutional Review Boards (IRBs) and local health authorities before the initiation of this study. In addition, a verbal consent form was obtained from each patient (Appendix 2).

3.8 Pilot study

A pilot study (30 participants) has been conducted to test the tool, ensure the availability of the required data, estimate the time, and modify the data collection form, as appropriate. The patients participating in the pilot study were not included in the final analysis.

3.9 Statistical analysis

Data were entered and analyzed using the Statistical Package for Social Sciences program version 15 (SPSS). Data will be expressed as means ± SD for continuous variables and as frequencies (percentages) for categorical variables. Variables that are not normally distributed are expressed as medians (lower-upper quartiles). Variables were tested for normality using the Kolmogorov–Smirnov test. Either the chi-square or the Fisher exact test, as appropriate, was used to test significance between categorical variables. The Kruskal–Wallis test followed by Bonferroni–Dunn post hoc analysis or Mann–Whitney was used to test for differences

in means between categories. The significance level was set at p-value< 0.05.

Chapter Four
Results

4.1 Socio-demographic data

Our study was conducted on 323 patients with a response rate of (92.88%) in AL Makkased hospital, which is located in Jerusalem city in Palestine, who are using anticoagulant drugs prophylactically or as a treatment for different medical conditions.

As Table 4.1 indicates, most of our patients are females, 61.7%; 29.1% are pregnant, nearly half of them (54.3%) are middle-aged, (30–60), 35% are over 60, and 10.3% are less than 30 years old. The table also shows that most (76.3%) of them are married, and the rest are widowed, single or divorced (22.3%). Moreover, 56.3% of our patients had a secondary level of education or less (18% secondary, 17.3% primary, 14.3% elementary, and 6.7% were illiterate), and 41.3% had a high education level. With regard to employment status, 64% were unemployed and the rest (33.3%) were employed, 7.7% had a monthly income that was less than 2000 NIS, 53.3% had a monthly income of between 2000 and 5000 NIS and 36.0% had a monthly income of more than 5000 NIS.

Table 4.1 also shows that 45.3% of them were overweight, 31.0% were obese, and 21.7% with normal weight. According to the locality, 57.3% of our patients were Urban, 28.3% Rural, and 12.0% existed in camps. Nearly 80% of them had at least one disease, and just under half of them (48.7%) had four or more diseases, 14% were pregnant (42) or had one disease,

21.0% had two diseases. Finally, 58.7% of the participants were using four medications or less, and the rest (41.3%) were using four medications.

Table 4.1 Socio-demographic and clinical characteristics of the study sample

Socio-demographic Variables		Frequency (%) N=300
Gender	Male Female	115 (38.3) 185 (61.7)
Age	Less than 30 30–60 More than 60	31 (10.3) 163 (54.3) 106 (35.3)
BMI *	Normal weight (18.5–24.9) Overweight (25–29.9) Obese >30	65 (21.7) 136 (45.3) 93 (31.0)
Educational status	Illiterate Elementary Primary Secondary University	20 (6.7) 43 (14.3) 52 (17.3) 54 (18.0) 124 (41.3)
Marital status	Married Unmarried (single, divorced, widowed)	229(76.3) 67(22.3)
Income/month(NIS) **	Less than 2000 2000–5000 More than 5000	23 (7.7) 160(53.3) 108(36.0)
Employment status	Employed Unemployed	194(64.3) 100(33.3)
Locality	Camp Rural Urban	36(12.0) 85(28.3) 172(57.3)
Chronic comorbid disease	Pregnant One disease Two diseases Three diseases or more	42(14.0) 43(14.3) 63(21.0) 146(48.7)
Chronic medications	**≤ 4** **>4**	176(58.7) 124(41.3)

* BMI: Body mass index.

**NIS: New Israeli` Shekel (0.29 US Dollar).

4.2 Self-efficacy score and socio-demographic variables

The self-efficacy scale (SES8C) consists of six questions to measure how confident the participants suffering from chronic disease are about managing their disease. This scale covers several common domains across many chronic diseases, role functions, emotional functions, symptom control, and communicating with physicians.

The mean and median of self-efficacy score was 38.41±9.88, and 39 (interquartile range: 33–46). The median of self-efficacy scores in participants younger than 30 age was 47(41–50), middle age (30–60) was 41(35-46), and older than 60 was 35(30–42). According to participant gender, the male median self-efficacy score was 40(33–47), and female was 39(32–45). Obese participants showed lower self-efficacy scores 38(31–44), with increasing scores according to weight; for overweight and normal, the median self-efficacy scores were 39(34–45), 41(39–49) and respectively. Moreover, illiterate participants showed lower self-efficacy scores with a median score of 29.50(21.75–41.50), elementary schooling level was 35(28–41), primary 37(31–42), secondary 41.00(36.75–48.00), and the higher median self-efficacy scores were for the participants with a university educational level 41.50(34–47). Median self-efficacy scores of participants according to their income level, 41(31–45) for monthly income less than two thousand NIS, 39(31–45) for (2000–5000) NIS monthly, and 41(35–46) for the highest monthly participant's income whose monthly income was more than 5000 NIS. Participants living in refugee Palestinian camps had the lowest median self-efficacy median score 38.5(31.25–

45.75), for those rurally located was 39(31–44), and participants living in the city the median self-efficacy score was 39(34–46.75). Married participants had the higher median scores of self-efficacy 12(11–14), and unmarried median scores (single, divorced, and widowed) were 11(10–13). Unemployed participants scored higher self-efficacy 42(34–48) than employed participants 38(32–44.25). For pregnant participants and participants who had just one chronic disease the median self-efficacy score was 42(35–47), and 42(34–49), respectively; the median reduced with participants having two chronic diseases 40(33–47), and the lower score was for participants having more than three chronic diseases as 37 (30.75–44). Moreover, for participants taking four or fewer medications, their median score was 41 (33.25–47.00), higher than participants taking more than four medications 37(32–44). Self-efficacy score according to the anticoagulant used was 41.00(33.75–47.00) for NOACs, 40.00(35.00–46.00) for UFHs and 35.00(30.25–42.00) for warfarin users.

Table 4.2 shows a significant difference in self-efficacy scoring between participants according to their age ($p<0.001$), educational level ($p<0.001$), employment status ($p=0.049$), comorbidities ($p=0.048$) and chronic medications ($p=0.029$). The table shows that being young, with higher educational level, unemployed participants, patients how had less than two chronic diseases, patients with a lower number of medications had the higher self-efficacy score. No significant differences were noted between participants according to their gender, weight, income, locality and marital state.

Table 4.2 Self-efficacy total score by socio-demographic and clinical variables

Variable	Frequency % N(300)	Median (Q1–Q3)	Mean ± SD	Mean rank	P value
Age category (years)					
< 30	31 (10.3)	47.00(41.00–50.00)	44.32±9.09	205.84	**<0.001** [b]
30–60	163 (54.3)	41.00(35.00–46.00)	39.36±9.38	158.72	
> 60	106 (35.3)	35.00(30.00–42.00)	35.23±9.80	121.68	
Gender					
Male	115 (38.3)	40.00(33.00–47.00)	39.09±10.46	156.93	0.311 [a]
Female	185 (61.7)	39.00(32.00–45.00)	37.99±9.52	146.50	
BMI[a]					
Normal	65 (21.7)	41.00(39.00–49.00)	40.13±9.51	163.11	0.146[b]
Overweight	136 (45.3)	39.00(34.00–45.00)	38.35±9.05	147.75	
Obese	93 (31.0)	38.00(31.00–44.00)	37.09±9.97	136.19	
Education			30.70±11.37	90.18	**<0.001** [b]
Illiterate	20 (6.7)	29.50(21.75–41.50)	36.14±9.42	123.37	
Elementary	43 (14.3)	35.00(28.00–41.00)	36.45±9.77	130.83	
Primary	52 (17.3)	37.00(31.00–42.00)	40.65±9.91	167.40	
Secondary	54 (18.0)	41.00(36.75–48.00)	39.85±9.18	159.59	
University	124 (41.3)	41.50(34.00–47.00)			
Income (month)					
Less than 2000 NIS	23 (7.7)	41.00(31.00–45.00)	37.61±11.70	145.93	0.432[b]
2000–5000	160(53.3)	39.00(31.00–45.00)	38.00±9.66	140.54	
More than 5000	108(36.0)	41.00(35.00–46.00)	39.31±10.07	154.10	
locality		38.50	37.53±9.46	138.42	0.675 [b]
Camp	36(12.0)	(31.25–45.75)	38.11±9.51	143.67	
Rural	85(28.3)	39.00	38.76±10.18	150.44	
Urban	172(57.3)	(31.00–44.00)			
		39.00			
		(34.00–46.75)			
Marital status					
Married	229(76.3)	12.00(11.00–14.00)	39.00±9.52	152.59	0.103[a]
Unmarried (single, divorced, widowed)	67(22.3)	11.00(10.00–13.00)	36.25±10.97	133.50	
Employment status					
Employed	194(62.3)	42.00(34.00–48.00)	40.04±10.26	161.07	**0.049** [a]
Unemployed	100(33.3)	38.00(32.00–44.25)	37.82±9.24	140.51	
Chronic co-morbid disease					
Pregnant	42(14.0)	42.00(35.00–47.00)	40.29±8.89	166.74	**0.034** [b]
One disease	43(14.3)	42.00(34.00–49.00)	40.30±10.56	164.71	
Two diseases	63(21.0)	40.00(33.00–47.00)	39.43±8.89	156.02	
Three diseases or more	146(48.7)	37.00(30.75–44.00)	36.76±10.32	133.22	
Chronic medications					
≤ 4	176(58.7)	41.00(33.25–47.00)	39.32±9.95	159.76	**0.029** [a]
>4	124(41.3)	37.00(32.00–44.00)	37.11±9.68	137.49	
Anticoagulant drug					
UHF	87(29)	40.00(35.00–46.00)	39.02±8.45	154.05	
Vit-K dependent	134(44.7)	35.00(30.25–42.00)	35.18±9.74	119.38	**0.002** [b]
NOACs	75(25)	41.00(33.75–47.00)	39.00±8.20	161.20	

[a] Statistical significance of differences was calculated using Mann–Whitney U test

[b] Statistical significance of differences was calculated using Kruskal–Wallis test

Bold P-value indicates significant difference.

4.3 Burden score and socio-demographic variables

The Anti-Coagulant Treatment Satisfaction scale (ACTS) is a 15-item instrument of satisfaction with anticoagulant treatment. It includes a 12-item ACTS burden scale and a 3-item ACTS benefit scale. The 12 burdens of ACTS score are reversely coded (scored 5–1), whereas the other three items are normally coded (1–5), which means that higher scores indicate greater patient satisfaction.

The mean and median of the acting burden was 43.30±10.45, and 43.30(interquartile range: 36–51). The median burden score according to participants' ages was 42(34–52) for those aged less than 30, 43(37–51) for middle-aged participants, and 45(36–50) for older than 60. According to participant gender, male participants' ACTS burden score was 46(38–52), and female 42(35–49). Normal weight (according to their BMI) classified participants' median was 42(35–50), for overweight 44(36.25–51.75) and for obese participants 44(37–50.5). According to the educational level of our participants, illiterate participants' median ACTS burden score was 39(29.25–49.5), elementary schooling was 46(36.75–50.25), primary schooling 42(35–49), secondary schooling 45(38.75–54), and university 43(36–50.75). The median ACTS burden scores of participants according to their income level were 40(31–46), with a monthly income of less than 2000 NIS, 42(35–50) for 2000–5000 NIS monthly, and 45(40–53) for the highest monthly participants' income on a monthly income of more than 5000 NIS. Participants located in refugee camps' had a ACTS burden median score of 41(35–48.5), rural participants a median score of 40(34–

50), and 48(41–55) for city-located participants. Married participants had a high ACTS burden score 44(37–51), unmarried (single, divorced, and widowed) 41(31–49). Employed participants burden score was 42(35.75–50.25), and the unemployed was 45(36.25–52). According to their medications, there were no significant differences among participants. Participants using four medications or less had a median acting burden score of 43(36–51), and 44(36–50) for participants using more than four medications for their disease. Pregnant median burden score was 44(38–52), participants with one disease only it was 45(35–53), with two diseases it was 42(36–51), and 44(36–50) for participants who have three diseases and more. Median ACTS burden scores in participants according to the anticoagulant used was 44.00(36.75–57.00) for NOACs users, 43.00(36.00–51.00) for warfarin and 42.00(35.00–51.00) for enoxaparin users.

Table 4.3 shows a significant difference in treatment burden scoring between participants according to their gender ($p=0.006$), income ($p=0.001$), and marital status ($p<0.001$). No significant differences were found between participants' ACTS burden scores according to their age, weight, gender, locality, educational level, employment status, chronic comorbidities and chronic medication.

Table 4.3 Burdens total scores by socio-demographic and clinical variables

Variable	Frequency % N (300)	Median (Q1–Q3)	Mean ± SD	Mean rank	P value
Age category (years)					
< 30	31 (10.3)	42.00(34.00–52.00)	41.68±11.02	141.21	0.651 [b]
30–60	163 (54.3)	43.00(37.00–51.00)	43.99±10.77	154.47	
> 60	106 (35.3)	45.00(36.00–50.00)	42.73±91.78	147.11	
Gender					
Male	115 (38.3)	46.00(38.00–52.00)	45.01±9.88	168.03	**0.006** [a]
Female	185 (61.7)	42.00(35.00–49.00)	42.25±10.68	139.60	
BMI[a]					
Normal	65 (21.7)	42.00(35.00–50.00)	42.89±9.89	140.45	0.702 [b]
Overweight	136 (45.3)	44.00(36.25–51.75)	43.44±10.15	151.19	
Obese	93 (31.0)	44.00(37.00–50.50)	43.55±11.48	147.04	
Education					
Illiterate	20 (6.7)	39.00(29.25–49.50)	39.60±11.17	118.63	0.160 [b]
Elementary	43 (14.3)	46.00(36.75–50.25)	43.31±9.19	149.86	
Primary	52 (17.3)	42.00(35.00–49.00)	41.06±10.13	131.38	
Secondary	54 (18.0)	45.00(38.75–54.00)	45.67±9.60	165.19	
University	124 (41.3)	43.00(36.00–50.75)	43.80±11.25	146.76	
Income (month)					
Less than 2000	23 (7.7)	40.00(31.00–46.00)	38.60±8.74	108.11	
2000–5000	160(53.3)	42.00(35.00–50.00)	41.93±9.44	136.66	**0.001**[b]
More than 5000	108(36.0)	45.00(40.00–53.00)	46.06±11.10	167.91	
locality					
Camp	36(12.0)	41.00(35.00–48.50)	41.47±8.55	131.01	0.123 [b]
Rural	85(28.3)	40.00(34.00–50.00)	41.83±11.09	136.84	
Urban	172(57.3)	44.00(37.25–51.00)	49.17±10.13	155.37	
Marital status					
Married	229(76.3)	44.00(37.00–51.00)	44.29±10.26		**0.005**[a]
Unmarried (single, divorced, widowed)	67(22.3)	41.00(31.00–49.00)	39.86±10.32		
Employment status					
Employed	194(62.3)	42.00(35.75–50.25)	44.76±11.55	158.40	0.114 [a]
Unemployed	100(33.3)	45.00(36.25–52.00)	42.61±9.88	141.88	
Chronic comorbid disease					
Pregnant	42(14.0)	44.00(38.00–52.00)	44.24±8.25	156.31	0.696 [b]
One disease	43(14.3)	45.00(35.00–53.00)	44.67±11.45	156.79	
Two diseases	63(21.0)	42.00(36.00–51.00)	42.35±9.26	141.24	
Three diseases or more	146(48.7)	44.00(36.00–50.00)	43.41±11.05	144.93	
Chronic medications					
≤ 4	176(58.7)	43.00(36.00–51.00)	43.43±11.05	150.86	0.932 [a]
> 4	124(41.3)	44.00(36.00–50.00)	43.14±9.57	149.99	
Anticoagulant drug					
UHF	87(29)	42.00(35.00–51.00)	42.75±9.63	143.83	0.596 [b]
Vit-K dependent	134(44.7)	43.00(36.00–51.00)	41.65±11.06	143.90	
NOACs	75(25)	44.00 (36.75–57.00)	44.12±	154.06	

[a] statistical significance of differences was calculated using Mann–Whitney U test

[b] Statistical significance of differences was calculated using Kruskal–Wallis test

Bold P-value indicates significant difference.

4.4 ACTS benefit score and socio-demographic variables

The mean and median of the ACTS benefit total score was 11.84±2.17, and 12 (interquartile range 11–13.75). The median of the ACTS benefit scores in participants younger than 30 years old was 15(14–15), middle age (30–60) was 12(11–14), and older than 60 was 11(9–12). According to participant gender, male median ACTS benefit score was 12(10–12), and female was 12(11–14). Normal, overweight and obese (according to their BMI) have nearly equal median scores with 12 (11–15), 12(10–13),12 (10–13) and 12(10–13), respectively. The illiterate participants had the lowest median ACTS benefit score 9.5 (9–11), elementary schooling level was 11(9–12), primary schooling was 12(10–13), secondary schooling was 12(11–14), and university 12(11–15). Depending on their monthly income, the ACTS benefit median score was 12 (11–15) for a monthly income of less 2000 NIS, was 12(11–14) for an income of 2000–5000 NIS monthly, and 12(10–13) for the highest participant monthly for those with a monthly income of more than 5000 NIS. The ACTS benefit median score for participants according to their locality was 12(11.00–14.75) for camp residents, 12(11–15) for rural, and 12(10–13) for participants living in the city. Married participants had a higher ACTS benefit median score 12(11–14), than unmarried participants 11(10–13). Moreover, the median of ACTS benefits scores according to the participants' employment status was 12(10–13.25) for employed and 12 (11–14) for unemployed participants. Pregnant participants had a median score of 14(12–15), for participants with either one or two diseases the median score was 12(10–14), but

participants with three diseases and more have a lower score 11(10–12). The ACTS benefit score was 12.00 (11–15) for participants using four medications or less, and 11(10–12) for participants using more than four medications. Finally, the median of the ACTS benefit score according to the anticoagulants used was 11.00 (10.00–12.00) for enoxaparin, 11.50 (10.00–13.00) for warfarin and 13.00 (12.00–15.00) for NOAC users. The table shows a significant acting benefit score according to the participant's age ($p < 0.001$), gender ($p = 0.015$), weight ($p < 0.001$), educational level ($p < 0.001$), marital status ($p = 0.003$), comorbidities ($p = 0.018$) and chronic medications ($p < 0.001$). No significant differences were found among participants ACTS benefit scores according to their income, locality and employment status.

Table 4.4 Benefits total by score socio-demographic and clinical variables.

Variable	Frequency % N (300)	Median (Q1–Q3)	Mean ± SD	Mean rank	P value
Age category (years)					
< 30	31 (10.3)	15.00(14.00–15.00)	14.55±0.89	255.40	**<0.001** [b]
30–60	163 (54.3)	12.00(11.00–14.00)	12.08±1.97	159.84	
> 60	106 (35.3)	11.00(9.00–12.00)	10.69±1.93	105.45	
Gender					
Male	115 (38.3)	12.00(10.00–12.00)	11.47±1.98	133.34	**0.015** [a]
Female	185 (61.7)	12.00(11.00–14.00)	12.07±2.26	159.92	
BMI[a]					
Normal	65 (21.7)	12.00(11.00–15.00)	12.63±2.08	178.75	**0.003**[b]
Overweight	136 (45.3)	12.00(10.00–13.00)	11.57±2.30	139.13	
Obese	93 (31.0)	12.00(10.00–13.00)	11.58±1.94	137.90	
Education					
Illiterate	20 (6.7)	9.50(9.00–11.00)	10.05±1.57	75.45	**<.001** [b]
Elementary	43 (14.3)	11.00(9.00–12.00)	10.76±1.76	101.92	
Primary	52 (17.3)	12.00(10.00–13.00)	11.73±2.15	145.35	
Secondary	54 (18.0)	12.00(11.00–14.00)	12.19±2.13	159.62	
University	124 (41.3)	12.00(11.00–15.00)	12.38±2.15	166.65	
Income (month)					
Less than 2000	23 (7.7)	12.00(11.00–15.00)	12.17±2.61	160.98	
2000─5000	160(53.3)	12.00(11.00–14.00)	11.82±2.20	145.83	
More than 5000	108(36.0)	12.00(10.00–13.00)	11.75±2.09	143.06	0.641 [b]
locality					
Camp	36(12.0)	12.00(11.00–14.75)	12.25±2.08	161.86	0.258 [b]
Rural	85(28.3)	12.00(11.00–15.00)	12.02±2.30	153.71	
Urban	172(57.3)	12.00(10.00–13.00)	11.66±2.14	140.58	
Marital status					
Married	229(76.3)	12.00(11.00–14.00)	12.01±2.14	127.51	**0.003** [b]
Unmarried (single, divorced, widowed)	67(22.3)	11.00(10.00–13.00)	11.37±2.14	154.64	
Employment status					
Employed	194(62.3)	12.00(10.00–13.25)	12.10±1.80	156.46	0.188 [a]
Unemployed	100(33.3)	12.00(11.00–14.00)	11.73±2.32	142.88	
Chronic comorbid disease					
Pregnant	42(14.0)	14.00(12.00–15.00)	12.14±1.96	216.07	**0.018** [b]
One disease	43(14.3)	12.00(10.00–14.00)	11.99±2.10	152.50	
Two diseases	63(21.0)	12.00(10.00–14.00)	12.05±2.06	154.00	
Three diseases or more	146(48.7)	11.00(10.00–12.00)	11.20±2.05	123.50	
Chronic medications					
≤ 4	176(58.7)	12.00(11.00–15.00)	12.25±2.23	167.30	**< 0.001** [a]
≥ 4	124(41.3)	11.00(10.00–12.00)	11.26±1.96	126.65	
Anticoagulant drug					
UHF	87(29)	11.00(10.00–12.00)	11.04±1.74	113.63	
Vit-K dependent	134(44.7)	11.50(10.00–13.00)	11.52±2.22	135.54	**<0.001** [a]
NOACs	75(25)	13.00(12.00–15.00)	13.07±1.89	198.53	

[a] Statistical significance of differences was calculated using Mann–Whitney U test
[b] Statistical significance of differences was calculated using Kruskal–Wallis test
Bold P-value indicates significant differences.

4.5 Correlations between treatment satisfaction and self-efficacy

Spearman's correlation coefficient values between the total score of burden, benefits, overall satisfaction domains and the self-efficacy score were 0.33, 0.71 and 0.35, respectively. Therefore the results of the study indicated a significant weak positive correlation between benefit domain and self-efficacy scores, and significant weak positive correlations between burdens, Overall Satisfaction domains, and Self-Efficacy score (Table 4.5).

Table 4.5 Correlation coefficient between Treatment Satisfaction and Self-Efficacy

Satisfaction Domain	Spearman's Rho	Self-Efficacy
Burdens	Correlation coefficient	0.325
	Significance (2-tailed)	0.000
Benefits	Correlation coefficient	0.171
	Significance (2-tailed)	0.003
Overall satisfaction	Correlation coefficient	0.345
	Significance (2-tailed)	0.000

Chapter Five
Discussion

This study was one of the first performed in Palestine to examine whether there is any significant relationship between patient treatment satisfaction using the ACTS scale and self-efficacy, using the SES6G scale, to study the correlation between them, to determine the factors that affected the treatment satisfaction, and the factors associated with self-efficacy, among patients using anticoagulant medications.

Most of our participants are married, female and employed, nearly half of them are middle-aged, overweight, with three chronic diseases or less and using four or less medications.

Our study demonstrated a moderate mean self-efficacy score (SES6C score) (38.41), and revealed that young, higher educated, unemployed patients with fewer medications and diseases had a good predictor of self-efficacy behaviour. There was no significant correlation between self-efficacy and patient gender, income, locality and marital state.

Patients reported moderate burden and benefit scores (43.30±10.45 and 11.84±2.17, respectively) compared to the reference range for each subscale (12–60 and 3–15, respectively); however, our patients reported lower burden scores than other populations. These findings are in discordance with a study conducted in Saudi Arabia (Shilbayeh and Ibrahim, 2020).

The burden mean score revealed that male participants had a higher satisfaction degree than females, which corresponds to a study performed in Spain (Fernández et al., 2018), which also agreed with another study that more burdened participants and less satisfied participants from using warfarin were more likely to be women (Perino et al., 2019).

Both gender and age-related treatment satisfaction in our results agreed with a study, conducted in California on venous thromboembolism patients, that women of younger age were associated with more perceived anticoagulant burden (Fang et al., 2021), in other words, two Spanish studies both of which dealt with AF patient satisfaction with DOACs (Suárez Fernández et al., 2018) and others that specified non-valvular AF patients' of VKA regarding drug burden and benefits (Escobar et al., 2018), agreed with our results that elderly patients were less burdened with anticoagulant treatment.

However, married participants and those on a higher monthly income are more satisfied and less burdened than unmarried and participants with a lower income.

According to the participant burden score, those who used DOACs had higher satisfaction than participants who used UFH (enoxaparin) or VKA (warfarin), which was also found in other randomized studies that compared rivaroxaban with vitamin K antagonist (VKA) / enoxaparin in patients with acute symptomatic DVT (Bamber et al., 2013), which in turn also agreed with other studies comparing vitamin K and non-vitamin K

antagonists, which found that NOAC had greater satisfaction compared with VKAs (Katerenchuk et al., 2020), and with another Japanese study that did for the same purpose (Okumura et al., 2018), and to the XANTUS-acting sub-study that treats the same issue and found the same results (Coleman et al., 2016), and a patient-reported satisfaction of the treatment of the two anticoagulant medication groups in PE patients said that treating with rivaroxaban were significantly greater than the standard one (Prins et al., 2015).

Both burden and benefits of the ACTS scale were higher with DOACs than with VKAs (Contreras Muruaga et al., 2017) which does not agree with other studies that found that the benefit ACTS scores were slightly higher among participants using warfarin compared to DOACs users (Okumura et al., 2018).

Patient self-efficacy and treatment satisfaction had a good correlation ($r=0.34$, $P<0.001$).

The benefit mean scores were somewhat higher in young married patients' higher educational level and a smaller number of diseases, and those with NOACs.

Selecting therapies can reduce patient burden, improving outcomes and their quality of life – all these improvements can be obtained by achieving a good satisfaction.

Determining patient satisfaction with anticoagulant strategies is necessary for selecting therapies that improve clinical outcomes and quality of life by minimizing patient burden.

Increasing patient satisfaction is a role that should be carried out by clinical pharmacists through educating patients and other healthcare providers about medication use, their importance, side effects and other drug-related factors. Educating the anticoagulated patient is often neglected because it is time-consuming but community and clinical pharmacists can play an essential role in this education strategy (Wofford et al., 2008), the pharmacists (according to National Patient Safety Agency) are in a prime position to give good counselling about the anticoagulant and the disease-state (Baglin et al., 2007), since patients forget 40–80% of the information that is given to them by their physicians (Wofford et al., 2008).

5.1 Strengths and limitations

5.1.1 Strength

To the best of our knowledge, this study was one of the first to investigate the effect and relationship of self-efficacy and treatment satisfaction among patients using anticoagulants in Palestine.

5.1.2 Limitations

1. This is a cross-sectional study, therefore it is difficult to prove causal relationships between the scales that have been used and their associated factors.

2. This study did not explore other potential factors, which may affect self-care/ self-efficacy and such as duration of the disease, smoking status.
3. Interviewer’s bias in the results may have been introduced, since the data were collected via a face-to-face interview.
4. The sample size and the use of a single center to recruit patients are considered limiting factors in this study.

Chapter Six
Conclusion and Recommendations

6.1 Conclusions

Our study discussed the relationship between self-efficacy and treatment satisfaction among patients using anticoagulant therapy and the factors that affect them both; we found that there is a relationship between them. We found that there is a higher degree of self-efficacy and treatment satisfaction among patients using NOACs than those who use UFH/VKAs. We also found an association between a higher education and young and unemployed patients with a lower number of diseases and medications and a good level of self-efficacy. We also found an association between being female, unmarried and have a low monthly income and being more burdened, young, male, unmarried, normal weight, higher educated, as well as having a lower number of diseases and medications, and a higher level of benefit scoring.

6.2 Recommendations

- We advocate for policymakers and healthcare providers to make the necessary changes to improve healthcare services and facilities for all patients, especially outside of cities.

- We also recommend conducting specialized therapy and training sessions on anticoagulant therapy. Patients, on the other hand, should be motivated to increase their knowledge, especially in terms of

anticoagulant therapy and monitoring, which can be accomplished through counselling programmes and tailored health promotion.

- Healthcare providers, especially pharmacists, should motivate, educate, and produce these types of skills to increase self-esteem and awareness among anticoagulated patients and to develop plans to focus on this important issue.

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Appendices

Appendix 1: Data Collection Form

A. Patient demographic characteristics

A.1 Patient number: _____

A.2 Date of birth: _____ **A.3 Age: _____** years

A.4 Gender: □ Male □ Female

A.5Weight: _____ Kg **A.6Height: _____** cm

A.7 Level of education:

□ Illiterate □ Primary □ Secondary □ University □Postgraduate

A.8 Income:

□ Low (Less than 2000 NIS) □ Moderate (2000-5000 NIS) □ High (More than 5000 NIS)

A.9 Marital Status:

□ Married □ Single □ Divorced □ Widowed

A. 10 Locality:

□ Urban □ Rural □ Camp

A.11 Employment status

□ Unemployed □ Employed □ Previously employed before failure onset

B.1: Co-morbidities:

□ Hypertension
□Angina
□Heart failure
□Hypoparathyroidism
□UTI
□Hyperparathyroidism
□ Diabetes mellitus
□ Atrial fibrillation
□ Dyslipidemia
□ Anemia
□Kidney failure
□ Others: ……

B.2: Medications

	Drug name	**Drug dose**	**Frequency**	**Route**
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

C:

Self-Efficacy for Managing Chronic Disease 6-item Scale

We would like to know how confident you are in doing certain activities. For each of the following questions, please choose the number that corresponds to your confidence that you can do the tasks regularly at the present time.

1. How confident do you feel that you can keep the fatigue caused by your disease from interfering with the things you want to do?

2. How confident do you feel that you can keep the physical discomfort or pain of your disease from interfering with the things you want to do?

3. How confident do you feel that you can keep the emotional distress caused by your disease from interfering with the things you want to do?

4. How confident do you feel that you can keep any other symptoms or health problems you have from interfering with the things you want to do?

5. How confident do you feel that you can the different tasks and activities needed to manage your health condition so as to reduce your need to see a doctor?

6. How confident do you feel that you can do things other than just taking medication to reduce how much your illness affects your everyday life?

not at all confident | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | totally confident

D:

Anti-Clot Treatment Scale

We are interested in your experiences of anti-clot treatment. We would be grateful if you could help us by filling out this questionnaire. The questions below ask about your experiences of anticlot-treatment during the past 4 weeks. All of the information you provide is COMPLETELY CONFIDENTIAL. Please be sure to answer all questions.

During the past 4 weeks...	Not at all	A little	Moderately	Quite a bit	Extremely
1. How much does the possibility of bleeding as a result of your anti-clot treatment limit you from taking part in vigorous physical activities (e.g. exercise, sports, dancing, etc.)?	1	2	3	4	5
1. How much does the possibility of bleeding as a result of your anti-clot treatment limit you from taking part in vigorous physical activities (e.g. exercise, sports, dancing, etc.)?	1	2	3	4	5
3. How bothered are you by the possibility of bruising as a result of your anti-clot treatment?	1	2	3	4	5
4. How bothered are you by having to avoid other medicines (e.g. aspirin) as a result of your anti-clot treatment?	1	2	3	4	5
5. How much does your anti-clot treatment limit what you eat and drink (including alcohol)?	1	2	3	4	5
6. How much of a hassle (inconvenience) are the daily aspects of your anti-clot treatment (e.g. remembering to take your medicine at a certain time, taking the correct dose of your medicine, limiting what you eat and drink (including alcohol), etc.)?	1	2	3	4	5
7. How much of a hassle (inconvenience) are the occasional aspects of your anti-clot treatment (e.g. the need for blood tests, going to or contacting the hospital/doctor, making arrangements for treatment while travelling etc.)?	1	2	3	4	5

Now I want to ask you about daily and occasional aspects of your anti-clot treatment during the past 4 weeks…

During the past 4 weeks...	Not at all	A little	Moderately	Quite a bit	Extremely
8. How difficult is it to follow your anti-clot treatment?	**1**	**2**	**3**	**4**	**5**
9. How time-consuming is your anti-clot treatment?	**1**	**2**	**3**	**4**	**5**
10. How much do you worry about your anticlot treatment?	**1**	**2**	**3**	**4**	**5**
11. How frustrating is your anti-clot treatment?	**1**	**2**	**3**	**4**	**5**
12. How much of a burden is your anti-clot treatment?	**1**	**2**	**3**	**4**	**5**
13. Overall, how much of a negative impact has your anti-clot treatment had on your life?	**1**	**2**	**3**	**4**	**5**
14. How confident are you that your anti-clot treatment will protect your health (e.g. prevent blood clots, stroke, heart attack, DVT, embolism)?	**1**	**2**	**3**	**4**	**5**
15. How reassured do you feel because of your anti-clot treatment?	**1**	**2**	**3**	**4**	**5**
16. How satisfied are you with your anti-clot treatment?	**1**	**2**	**3**	**4**	**5**
17. Overall, how much of a positive impact has your anti-clot treatment had on your life?	**1**	**2**	**3**	**4**	**5**

عزيزي المشارك، إن الغرض من هذه الاستمارة هو فحص نمط العلاقة مع الطبيب والعلاج وجودة الحياة لدى مرضى غسيل الكلى وانعكاساتها على الوضع الصحي لديهم ، لذا نرجو منك الإجابة عن الأسئلة التالية ، علما بأن المعلومات التي ستدلي بها ستظل سرية وتستخدم فقط لأغراض البحث العلمي، وشكرا لكم مقدما.

القسم الأول:

***رقم المريض:**

1-العمر: .....

2- الجنس: ❑ ذكر ❑ انثى

3- الطول : .....

4 - الوزن .....

5- مكان الإقامة: ❑ مخيم ❑ قرية ❑ مدينة

6- إقامتك الحالية: ❑ أعيش وحدي ❑ أعيش مع عائلتي ❑ غير ذلك

.....

7-ما المستوى التعليمي لديك: ❑ غير دارس ❑ابتدائي ❑ إعدادي
❑ثانوية عامة ❑ كلية (دبلوم) ❑ جامعي (بكالوريوس) ❑ دراسات عليا

8- الحالة الإجتماعية: ❑ أعزب ❑متزوج ❑ مطلق ❑
أرمل**9- ما نوع عملك ؟** ❑لا أعمل ❑ موظف ❑ غير موظف ❑ ربة منزل

10- كم يبلغ معدل الدخل الشهري للعائلة ؟

❑أقل من 2000 شيقل ❑ 2000-5000 شيقل ❑5000-10000 شيقل ❑ أكثر من 10000 شيقل

القسم الثاني:
1.الأمراض

□ Diabetes mellitus (السكري)
□ Atrial fibrillation(خفقان القلب الاذيني)
□ Dyslipidemia(خلل دهنيات الدم)
□ Anemia (فقر الدم)
□Kidney failure(فشل كلوي)
□ Others : ……

□ Hypertension (ارتفاع ضغط الدم)
□Angina (الذبحة الصدرية)
□Heart failure(خذلان القلب)
□Hypoparathyroidism(خمول جارات الدرقية)
□UTI (التهاب المجاري البولية)
□Hyperparathyroidism(فرط نشاط جارات الدرقية)

2.الأدوية:

	الدواء	الجرعة	التكرار	الشكل الصيدلاني
.1				
.2				
.3				
.4				
.5				
.6				
.7				
.8				
.9				
.10				

القسم الثالث:

نريد معرفة مدى ثقتك بالقيام بأنشطة معينة لتحسين مرضك المزمن. لكل من الأسئلة التالية الرجاء اختيار الرقم من 1-10 الذي يناسب مدى ثقتك بالقيام في مهامك بشكل منتظم في هذا الوقت ، حيث (1=غير واثق) (10=واثق جدا)
ما مدى ثقتك بأنك تستطيع :

لكل سؤال من الاسئلة التالية الرجاء وضع دائرة حول الرقم الذي يعبر عن مدى الثقة بالتزامك بالأفعال التالية في الوقت الحالي؟

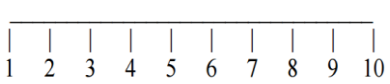
1.ثقتك بأن تمنع التعب الناتج عن مرضك المزمن بالتأثير على الأنشطة التي تنوي القيام بها

1 2 3 4 5 6 7 8 9 10

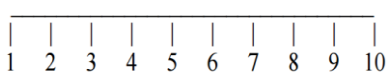
2.ثقتك بان تمنع التعب الجسدي أو ألم المرض من التأثير على أنشطتك اليومية

1 2 3 4 5 6 7 8 9 10

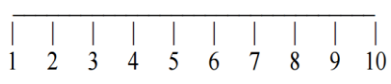
3.ثقتك بان تمنع التأثر العاطفي الناتج من مرضك من التأثير على أنشطتك اليومية



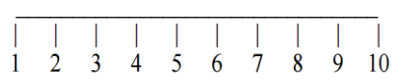
4.ثقتك بان تمنع أي أعراض أو أي مشاكل صحية أخرى تعاني منها من التأثير على الأنشطة التي تنوي القيام بها



5.ثقتك بان تقوم بالمهام اللازمة لعلاج حالتك الصحية بحيث تقلل من عدد مرات زيارة الطبيب



6.ثقتك بأن تقوم بأشياء أخرى غير أخذ الأدوية لتقلل من تأثير المرض على حياتك اليومية



القسم الرابع:

مقياس العلاج المضاد لتخثر الدم (ACTS)

نحن مهتمون بتجربتك مع العلاج المضاد لتخثر الدم. سنكون ممتنين جدًا إذا ما ساعدتنا من خلال تعبئة هذا الاستبيان. تدور الأسئلة أدناه حول تجربتك مع العلاج المضاد لتخثر الدم خلال الأسابيع الأربعة الماضية. جميع المعلومات التي تزودها **سرية تمامًا**. يرجى التأكد من الإجابة عن جميع الأسئلة.

تعليمات: نحن مهتمون بتجربتك مع العلاج المضاد لتخثر الدم خلال الأسابيع الأربعة الماضية. يرجى وضع دائرة حول الرقم في الخانة الذي يصف آراءك بأفضل شكل.

خلال الأسابيع الأربعة الماضية...	على الإطلاق	قليلاً	بدرجة متوسطة	بدرجة كبيرة	بدرجة قصوى
1. إلى أي درجة يعيقك احتمال حدوث النزيف نتيجة لعلاجك المضاد لتخثر الدم من المشاركة في الأنشطة البدنية القوية (مثل التمارين الرياضية، الرياضات، الرقص وما إلى ذلك)؟	1	2	3	4	5
2. إلى أي درجة يعيقك احتمال حدوث النزيف نتيجة لعلاجك المضاد لتخثر الدم من المشاركة في أنشطتك المعتادة (مثل العمل، التسوّق، الأعمال المنزلية وما إلى ذلك)؟	1	2	3	4	5
3. ما هي درجة انزعاجك من احتمال حدوث التكدّم نتيجة لعلاجك المضاد لتخثر الدم؟	1	2	3	4	5
4. ما هي درجة انزعاجك من اضطرارك لتجنب الأدوية الأخرى (مثل الأسبرين) نتيجة لعلاجك المضاد لتخثر الدم؟	1	2	3	4	5
5. إلى أي درجة يحد علاجك المضاد لتخثر الدم مما تتناوله من طعام وشراب (بما في ذلك الكحول)؟	1	2	3	4	5
6. ما مدى المتاعب (الإزعاج) الذي تسببت به النواحي اليومية المتعلقة بعلاجك المضاد لتخثر الدم (مثل تذكّر تناول دواءك في وقت معين، تناول الجرعة الصحيحة من دوائك، الحد مما تتناوله من طعام وشراب (بما في ذلك الكحول)، وما إلى ذلك)؟	1	2	3	4	5
7. ما مدى المتاعب (الإزعاج) الذي تسببت به النواحي الأحيانية المتعلقة بعلاجك المضاد لتخثر الدم (مثل الحاجة لإجراء اختبارات الدم، الذهاب إلى الطبيب/المستشفى أو الاتصال به، اتخاذ ترتيبات للعلاج أثناء السفر، وما إلى ذلك)؟	1	2	3	4	5

الآن أود أن أسألك عن النواحي اليومية و الأحيانية المتعلقة بعلاجك المضاد لتخثر الدم خلال الأسابيع الأربعة الماضية...

	على الإطلاق	قليلاً	بدرجة متوسطة	بدرجة كبيرة	بدرجة قصوى
8. ما مدى صعوبة اتباعك لعلاجك المضاد لتخثر الدم؟	1	2	3	4	5
9. إلى أي درجة يعتبر علاجك المضاد لتخثر الدم مستهلكًا للوقت؟	1	2	3	4	5
10. ما مدى قلقك من علاجك المضاد لتخثر الدم؟	1	2	3	4	5
11. إلى أي درجة يعتبر علاجك المضاد لتخثر الدم محبطًا؟	1	2	3	4	5
12. إلى أي درجة يشكّل علاجك المضاد لتخثر الدم عبئًا عليك؟	1	2	3	4	5
13. **بشكل عام**، إلى أي درجة كان لعلاجك المضاد لتخثر الدم تأثيرًا سلبيًا على حياتك؟	1	2	3	4	5
14. ما مدى ثقتك بقدرة علاجك المضاد لتخثر الدم على صون صحتك (على سبيل المثال الوقاية من الجلطات الدموية، السكتة الدماغية، النوبات القلبية، جلطات الأوردة العميقة، الانصمام)؟	1	2	3	4	5
15. إلى أي درجة تشعر بالاطمئنان إزاء علاجك المضاد لتخثر الدم؟	1	2	3	4	5
16. ما مدى رضاك عن علاجك المضاد لتخثر الدم؟	1	2	3	4	5
17. **بشكل عام**، إلى أي درجة كان لعلاجك المضاد لتخثر الدم تأثيرًا إيجابيًا على حياتك؟	1	2	3	4	5

شكرًا لك على مساعدتك

Appendix 2: Permission and IRB

(Institutional Review Board Approval Letter)

An-Najah
National University
Health Faculty of medicine&
Sciences
IRB

جامعة النجاح
الوطنية
كلية الطب وعلوم الصحة
لجنة اخلاقيات البحث العلمي

Approval Letter

Study Title:

The relationship between self-efficacy and treatment satisfaction to anticoagulant therapy: A cross-sectional study among Palestinian patients in Jerusalem

Submitted by:
Amal Abu Dalu

Supervisor:
Dr. Sa'ed Zyoud
Dr. Samah Al-Jabi

Date Reviewed:
29th November 2018

Date Approved:
9th December 2018

Your Study titled "**The relationship between self-efficacy and treatment satisfaction to anticoagulant therapy: A cross-sectional study among Palestinian patients in Jerusalem**" with archived number (5) December was reviewed by An-Najah National University IRB committee and was approved on 9th December 2018.

Hasan Fitian, MD
IRB
IRB Committee Chairman
An-Najah National University

نابلس - ص.ب 7 أو 707 || هاتف 14/8/7/4/2342902 (09) (970) || فاكسميل 2342910 (09) (970)
Nablus - P.O Box :7 or 707 | Tel (970) (09) 2342902/4/7/8/14 | Faxmile (970) (09) 2342910 | E-mail : hgs@najah.edu

Appendix 3

Ministry of Health Approval Letter

مستشفى جمعية المقاصد الخيرية الاسلامية – القدس
MAKASSED ISLAMIC CHARITABLE HOSPITAL - JERUSALEM

Ref. No.: رقم الشارة: 90/1/3

Date: التاريخ: 8 نيسان 2019

حضرة الدكتور سائد زيود المحترم
كلية الطب وعلوم الصحة / دائرة الصيدلة
جامعة النجاح الوطنية
نابلس / فلسطين
فاكس : 09-2342905

تحية طيبة وبعد ،

الموضوع : البحث العلمي – "The Relationship between self-efficacy and treatment satisfaction to anticoagulant therapy"

بالإشارة إلى كتابكم بتاريخ 2019/3/3 بخصوص تسهيل مهمة طالبة برنامج ماجستير الصيدلة السريرية أمل أبو دلو بالسماح لها بالإطلاع على ملفات مرضى ومقابلتهم بهدف إجراء بحث علمي .

فإنه لا مانع لدينا من حيث المبدأ ، وأود مقابلة الطالبة المذكورة أولاً من خلال التنسيق لموعد المقابلة مع مكتب الإدارة لدينا على هاتف رقم : 02-6270202 .

وتفضلوا بقبول فائق الإحترام والتقدير ،،،

الدكتور عز الدين حسين
المدير الطبي

Jerusalem: P.O. Box: 19481, Code 91190
Al-Tour/ Mount of Olives, Jerusalem: P.O. Box: 22110, Code 91220
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تلفون: 02-6270222
فاكس: 02-6288392

جامعة النجاح الوطنية
كلية الدراسات العليا

العلاقة بين الكفاءة الذاتية والرضا العلاجي للعلاج بمضادات التخثر: دراسة مقطعية للمرضى الفلسطينيين في القدس

إعداد

أمل أبو دلو

إشراف

الدكتور سائد الزيود

الدكتورة سماح الجابي

قدمت هذه الأطروحة استكمالاً لمتطلبات الحصول على درجة الماجستير في الصيدلة السريرية في جامعة النجاح الوطنية – نابلس – فلسطين.

2021

العلاقة بين الكفاءة الذاتية والرضا العلاجي للعلاج بمضادات التخثر: دراسة مقطعية للمرضى الفلسطينيين في القدس

إعداد

أمل أبو دلو

إشراف

الدكتور سائد الزيود

الدكتورة سماح الجابي

الملخص

الخلفية: تعتبر أمراض الإنسداد التجلطي من المشاكل الصحية المعقدة المنتشرة والشائعة كثيراً؛ وبالرغم من أن مضادات التخثر لديها العديد من الجوانب اللإيجابية في مثل هذه الحالات المرضية، إلا أنها تمتلك بعض الخصائص التي قد تؤثر بقوة على الإلتزام العلاجي للمرضى بهذه الأدوية ورضى المريض عنها مما يؤدي إلى التأثير على مستوى الرضى العلاجي، الكفاءة الذاتية وكذلك جودة حياة المريض. الكفاءة الذاتية والرضى العلاجي للمرضى عند استخدامهم لادويتهم قد يزيد من نسبة الالتزام العلاجي بهذه الأدوية وازدياد نسبة نجاح العلاج كنتيجة لذلك.

الأهداف: تهدف هذه الدراسة الى تقييم العلاقة بين الرضى العلاجي والكفاءة الذاتية في عينة من المرضى الفلسطينيين الذين يستخدمون أدوية مضادات التخثر ولتحديد الخائص الاجتماعية، الجغرافية وكذلك السريرية على كلا الجانبين.

المنهجية: كانت هذه الدراسة عبارة عن دراسة مقطعية أجريت في فلسطين. استخدم فيها النسخة العربية من الاستبيان المخصص لتقييم مدى الرضى العلاجي لمضادات التخثر، والنسخة العربية من الاستبيان المخصص لقياس مدى الكفاءة الذاتية لدى المرضى.

النتائج: تضمنت هذه الدراسة 300 مريضاً (متوسط أعمارهم 51.95+_17.98). أظهرت النتائج أن هناك ارتباطاُ ضعيفاُ بين الرضى العلاجي والكفاءة الذاتية لدى المرضى الذين يستخدون مضادات التخثر. أبدى المرضى مستوى عبئ وفائدة متوسطان للعلاج، كما أظهرت النتائج أن المرضى الأصغر سناُ، الحاصلين على مستوى تعليمي أعلى، يستخدمون عدداً أقل من الأدوية

والذين يعانون من عدد أقل من الأمراض المزمنة لديهم تأثير ايجابي على الكفاءة الذاتية. وأظهرت النتائج أن المرضى الذكور، المتزوجون والذين لديهم دخل شهري أعلى لديهم مستوى عبئ علاجي أكبر، بينما المرضى الأصغر، المرضى الإناث، أصحاب الوزن الطبيعي والحاصلين على مستوى تعليمي أعلى لديهم تأثير ايجابي على مستوى الفائدة العلاجية والرضى العلاجي. من جهة أخرى أظهرت النتائج أن المرضى الذين يستخدمون مضادات التخثر الحديثة (NOAC) لديهم مستوى كفاءة ذاتية أعلى وكذلك مستوى فائدة علاجية أعلى من المرضى الذين يستخدمون مضادات التخثر من فصيلة مضادات فيتامين (VKA).

الخلاصة: بشكل عام وجدت هذه الدراسة أن هناك علاقة بين الرضى العلاجي لدى اللمرضى وبين الكفاءة الذاتية لهم وأن كلاهما قد يتأثر بالخصائص الإجتماعية والديموجرافية والسريرية لكل مريض، كما وجدت الدراسة أن هناك درجة أعلى من الكفاءة الذاتية والرضى العلاجي بين المرضى الذين يستخدمون مضادات التخثر الحديثة (NOAC) والمرضى الذين يستخدمون مضادات التخثر من فصيلة مضادات فيتامين (VKA)/ (UFH). لقد أظهرت النتائج أيضاً اوجود علاقة جيدة بين المستوى التعليمي العالي، صغر العمر ووجود عدد أقل من الأمراض المزمنة والأدوية التي يستخدمها المرضى وبين الكفاءة الذاتية للمرضى. وجدت الدراسة ايضاً ارتباطاً بين كون المريض أنثى، غير متزوج وذو دخل شهري منخفض وبين نسبة عبئ أعلى للمريض. أما فيما يتعلق بنسبة الفائدة العلاجية الأعلى فكانت حسب النتائج بين المرضى الأصغر سناً، الذكور، غير المتزوجين، ذوي الوزن الطبيعي وحاصلين على المستوى التعليمي الأعلى.