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M.Sc. Program in Clinical Pharmacy

Factors Affecting Adherence to Direct Oral Anticoagulant Medications among Patients Attending Al Ain Hospital

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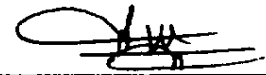
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Committee Decision

This Thesis/Dissertation (Factors Affecting Adherence to Direct Oral Anticoagulant Medications among Patients Attending Al Ain Hospital)

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(Factors Affecting Adherence to Direct Oral Anticoagulant Medications among

Patients Attending Al Ain Hospital**)**

للمكتبات الجامعية أو المؤسسات أو الهيئات أو الأشخاص المعنية بالأبحاث والدراسات العلمية عند طلبها.

الأسم: مريم ابراهيم البلوشي

التوقيع:

التاريخ:

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Dedication

To my family who helped and supported me from day one, to my colleagues, friends and supervisors; Dr. Adel Sadeq who guided and helped me undertake this project.

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Dedication

Statement of Original Authorship

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 The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

Signature:

Date: 1/06/2020

Abstract

Background

In Al Ain Hospital, anticoagulation therapy applies to the treatment of patients with different conditions such as stroke, myocardial infarction, atrial fibrillation, pulmonary embolism, deep vein thrombosis, and peripheral artery disease. However, many patients do not adhere to medications due to a variety of factors. A high rate of non-adherence to the anticoagulant medicines has made it difficult to achieve the desired health outcomes.

Aim

The study aimed to establish the factors that affect adherence to direct oral anticoagulant (DOAC) medications among patients attending Al Ain Hospital.

Material and Method

The research employs a prospective cohort study design for participants in Al Ain Hospital. A quantitative method involving questionnaires was used to collect data. All analyses were performed using Microsoft Excel version 2010 and SPSS version 20.0.

Results

The collected data showed more than half of the respondents, around 57% recorded adherence, and many of them were knowledgeable about adherence to DOAC doses and modes. However, it was found that the proportion of non-adherence with DOAC among patients was 38%. The leading factors were economic constrains, forgetting to take medications while traveling, and discontinuation of DOAC due to side effects without informing the physician or clinical pharmacist.

Conclusion

In patients undertaking DOAC, adherence is one of the critical aspects that can impact anticoagulation management. More stress is needed in patient-directed educational approaches in anticoagulation healthcare institutions. A need to design more stretchered counseling services and Clinical pharmacists should focus more on patients on this group of medications and involve the patient in the process of the management plan.

Keywords: Adherence, factors affecting adherence, Direct Oral anticoagulants (DOAC), and thrombus formation.

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List of Symbols, Acronyms, Abbreviations

ADR	Adverse drug reactions
ATRIA	Atrial Fibrillation
CMA	Complete medical acquisition
CMG	Continuous Measure of Medication Gaps
CSA	Single Interval Measure of Medication Acquisition
DOACs	Direct oral anticoagulant
INR	International Normalized Ratio
MPR	Medical Possession Ratio
NOACs	Novel Oral Anticoagulants
PDC	Proportion of Days Covered
UAE	United Arab Emirates

Chapter One: Introduction

1. Chapter One: Introduction

1.1 Background of the Study

Direct oral anticoagulant drugs (DOAC) are prescribed to people with severe risk of developing thrombus or clots. As a result, they help in reducing the chance of stroke and cardiac arrest. The medication works by interfering with the process of clotting. For that reason, anticoagulants are also referred to as "blood-thinning medicine".

There are different types of DOAC administered based on the diseases and medical conditions exhibited by the patient. When blood clots block the flow of blood, it cuts the flow supply of oxygen in the area. Lack of oxygen interferes with the proper functioning of the affected part. Therefore, it could lead to severe conditions like stroke, heart attacks, deep vein thrombosis, and pulmonary embolism.

1.2 Problem Definition

DOAC plays an essential role in preventing the development of fatal conditions. Despite these, people with infections, hormone therapy, pregnancy, air travel, and age increase the probability of developing deep vein thrombosis.

Using medicine in anticoagulation treatment requires close collaboration between the healthcare practitioner and the patient (Garkina et al., 2016). Too much dosage of DOAC may lead to excess bleeding, while low-level usage is likely to lead to devastating diseases. Research has revealed that non-adherence to medication is a significant problem that affects not only the patients, but also health professionals since they are accountable for the medical prescription (Morisky et al., 2008). Non-adherence towards treatment affects the efficiency of

the response. Morisky et al. (2008) note that non-adherence tendency leads to a significant increase in the cost of treatment.

1.3 Clinical Measure of Medication Adherence

Medication observance can be measured using direct as well as indirect methods. The use of the patient refill record is the most common indirect measures (Morisky et al., 2008). However, other measurement methods, such as the use of questionnaires and pill count, also exist.

The **Proportion of Days Covered (PDC)**, a Population, or Patient's Medical Possession Ratio **(MPR)** can be determined (Liu et al., 2018). Using refill records, PDC, and MPR are the most frequent measures of preventive measures, conveyed as a percentage for the period the patient had medication at their disposal.

Concerning MPR formula, patients who refill their medications early and routinely tend to have an **exaggerated MPR**, since the numerator in the equation will be larger than the denominator.

Though the above adherence measures hold, there are still no ideal consensuses on the optimal adherence levels. However, there are some cases in which higher levels of adherence are needed to avoid adverse outcomes (Schulman et al., 2013); involved **HIV medications** have found out that **95%** adherence levels among patients are required to deter the risks of drug resistance. Evidently, from the formulas above, assessing adherence among the patients' population is straightforward. It calculates average adherence and a good-looking average and, on the other hand, can exist even if through poor adherence.

1.4 Health and healthcare in the context of UAE

UAE has a flexible health care system that allows for the introduction of new services and products to facilitate access among the people. However, the government's focus on the provision of comprehensive care demonstrates its commitment to adhere to millennium development goals and IMF recommendations.

The government of UAE funds most healthcare programs in the country. Based on statistics and other projections by numerous institutions, the state invested between 2.8% and 3.3% of growth domestic product (GDP) in healthcare between 2017 and 2019. However, the government has been slowing on direct investment by encouraging the provision of universal insurance policies to meet International Monetary Fund (IMF) recommendations.

Health insurance has played a considerable role in enhancing access to comprehensive health coverage to most citizens. In 2007, UAE enacted Federal Law NO, which established a mandatory insurance cover to all the emirates. The health insurance covers citizens, and they are forced to pay to access the comprehensive scheme. That allows them to access more services, including treatment in foreign countries. The success of the UAE health care system to promote the prevention and treatment of diseases depends on the collaboration among the managers and implementation teams.

1.5 Research Gap

Preliminary data obtained from the anticoagulation, as well as the risk factors in Atrial Fibrillation (A.F), shows that 25% of patients who recently started anticoagulation therapy for their A.F fail to continue with the treatment within one year (Liu et al., 2018). These results agree with the outcomes derived from other clinical studies done in AL Ain Hospital suggesting a 25% discontinuation in the first twelve months and 32% over the next

three years of research in randomized patients on warfarin treatment versus alternative agents, such as DOAC (Shehab et al., 2018).

Education attainment among the patients at AL Ain Hospital has also been associated with anticoagulant adherence rates (Pandya & Bajorek, 2017). Concerning the previous IN-RANGE findings, consistency has been pointed out with earlier hospital case-control data. Schulman et al. (2013) argue that even though sufficient health literacy has been associated with the DOAC-knowledge deficit, education and active employment and knowledge levels have not been significantly linked to the self-reported adherence.

Most cases of non-adherence are reported on the new oral anticoagulants (NOACs). According to Rodriguez et al. (2013), patients have expressed concerns that they may fail to control excessive bleeding due to lack of antidote if they take the new anticoagulants. Besides, the absence of blood monitoring equipment or skills may make it difficult for the patients to receive the anticoagulants.

1.6 Aims and Objectives of the Study

The objective of the study was to establish factors that affect adherence to DOAC among patients attending Al Ain Hospital. Adherence to prescription drugs determines the effectiveness of treatment, which defines medical adherence.

The study intended to determine the critical factors with a negative impact on adherence to DOAC; the treatment of these conditions requires long-term use of pharmacotherapy. All the medications and programs are designed to combat the disease. However, the benefits harnessed from these programs may be impeded by non-adherence to prescribed doses. Brown and Bussell (2011) estimate that 50% of all patients fail to take their drugs according to the directions. In Al Ain Hospital, anticoagulation therapy applies to

patients with different situations such as stroke, heart attack, kidney failure, pulmonary embolism, deep vein thrombosis, and peripheral artery disease. However, many patients do not adhere to medications due to a variety of factors. A high rate of non-adherence to the DOAC has made it difficult to achieve the desired health outcomes. The leading factors for reduced adherence can be classified into medication-related, socio-economic related, survivor related, and condition related.

Finally, the study **aims** to establish practical measures for improving adherence to DOAC.

1.7 Organization of the Thesis, or Study Approach

The proposed participants of the study shared similar characteristics promoting the adoption of the **cohort design**. The sample would be selected in a random model among the patient already enrolled in anticoagulation therapy. The process is expected to take place at the **Al Ain Hospital**. The study variables would be analyzed using **quantitative data** collected through the use of questionnaires. The data collected will be **analyzed** using Excel and SPSS software.

The first part of the data collection will be to administer questionnaires to the participants. They will be informed on the purpose of the study and how they can respond to the closed-ended questions provided in the survey. The questionnaires will be administered physically to the participants and submit them after answering all the questions. The research will be based on a prospective **cohort design**. The expected outcome is that most of the patients have a high rate of non-adherence to anticoagulation medications. The research has taken **six months**, and the final results disseminated through pharmaceutical or medical journals and conferences. The results will help to establish measures for improving adherence towards anticoagulant medicines.

1.8 Significance and Contribution of the Research

Recently DOAC medications are being widely and the most common type of oral anticoagulant treatment prescribed to most patients. Despite the importance of modern medicine and its effectiveness in treating diseases, non-adherence to prescription continues to affect the health outcomes of patients with chronic conditions in the UAE.

Researchers report consistent findings indicating non-adherence with prescription remaining high among patients with chronic conditions (50%) (Elnour, 2016). The sensitivity of DOAC medications explains the need to understand the causes of non-adherence among the patient. Therefore, the study would help to form the foundation of establishing a measure to enhance adherence with prescriptions. The study also helps improve the types of services offered by the Al Ain Hospital to its patients. In the research, numerous factors persistent to the success of the UAE healthcare system shall merge.

Chapter Two: Literature review

2. Chapter Two: Literature review

2.1 Background

DOAC are compounds with anticoagulation properties that are often preferred by the researchers for ischemic stroke prevention against atrial fibrillation (A.F) in patients (Leung, McAllister, Selim, Fisher, 2017). The therapy with DOAC nowadays being a standard treatment procedure, and are widely used in patients with atrial fibrillation as a preventive antithrombotic agent (Garkina, Vavilova, Lebedev, Mikhaylov, 2016).

The adherence to DOAC depends upon the patient's behavior towards the prescribed medication and the extent to which the practice synchronizes with the medical advisory. Evidently, to understand the very nature of the patient's adherence to DOAC medications, the need to understand and discuss the potential factors become necessary.

2.2 Medication Adherence

As quoted by the WHO, medication adherence is an extent to which a person's behavior while taking medication corresponds with agreed recommendations from the healthcare provider (Rodriguez, Carrier, Wells, 2013). In the case of DOAC, medication adherence is the patient's potential towards that matches with the prescribed medication suggested by the doctor to improve patient's absorption. The adherence of oral anticoagulant medications is the direct consequence of adherence formed in the patient's behavior, and thus, high adherence is a useful tool to increase effective treatment. Whereas, patients with persisted practice or patients with persistence have been found to cooperate with medication therapy even after the patients do not respond positively to the therapy.

Al Ain Hospital is one of the widely recognized hospitals in the Middle East. It is known for its anticoagulant services offered to the patients who suffer prolonged blood clots.

It has been found that most of the patients adhere to medication therapy, while some patients fail to adhere to direct oral anticoagulant medications. This theory of maintaining continuous adherence to DOAC medication has been found in patients with severe stroke or those who are suffering from atrial fibrillation.

The patient's socio-economic factors were considered significant as far as the non-adherence of medications was concerned. However, factors such as the healthcare facility and the medical therapy process also play a significant role in affecting adherence towards direct oral anticoagulant medications among patients. Thus, limiting the check-ups and medication therapy could influence the adherence of DOAC medications in patients in Al Ain Hospital.

2.3 Understanding Anticoagulant Medications Adherence in Patients

For years, the research has strongly favored the anticoagulation in events when an individual patient suffers a stroke, heart attack, kidney failure, pulmonary embolism, deep vein thrombosis, and peripheral artery disease. However, on certain occasions, anticoagulation medications have been found to get affected in patients by factors that even the researchers are unsure about. Additionally, the DOAC in patients could be affected by several factors, including the patient's behavior towards the medications, demographics, awareness towards the DOAC medications, and genetic factors.

Thus, oral treatment is one of the significant factors contributing to the adherence of DOAC inside the patient's body. So the quality of food intake, living style, body resistance against changes, and many more factors directly influence the processing of anticoagulant medications in an individual patient's body (Frappé, Cogneau, Gaboreau, Abenhaïm, Bayen, Calafiore, 2017). Furthermore, the quantity of anticoagulant medication intake is also one of the significant factors that directly influence adherence towards a particular medication. Additionally, the patient's resistance towards medications and other physical factors become essential factors before a certain quantity of medications provided to the patient.

Consequently, when these factors do not meet the biological requirement, the patient becomes non-adherent to anticoagulant medications.

According to a survey conducted in China to understand the factors influencing the adherence towards DOAC, most of the patients were found to be adherent to the anticoagulation medication therapy (Zhao, Wang, Gao, Qin, Cai, Cao, 2017). The patients that were found to be adherent towards the therapy have been found to have favorable and non-harmful reactions towards DOAC. In this context, patients' general beliefs and their response towards the anticoagulant medication therapy were also recorded to ensure a complete proposal of the outcomes. Based on the analysis done in the Al Ain hospital, an analysis can be made that the younger patient is non-adherent towards the anticoagulant medication therapy as resisting DOAC for complete life could become irresistible for the patient of young age. Therefore, the adherence reduces as the patient's beliefs towards medication reduce, and the therapy turns into an unresponsive treatment. Conclusively, a young patient does not consider the medication therapy and thus, form non-adherent towards direct oral anticoagulant medication therapy.

2.4 Factors Influencing Process of Oral Anticoagulants

Based on several samples studied in the past few years, not much of a significant growth could be seen while identifying the factors influencing the process of direct oral anticoagulants. The DOAC is referred for patients who require lifelong medication therapy. The direct oral anticoagulants help prevent systemic embolism in patients who suffer from heart disease, atrial fibrillation, and venous thromboembolism (Liu, Li, Shi, Hamilton, Friend, Zhao, Shi, 2018). DOACs are also helpful in preventing thromboembolic reactions in patients' bodies, especially those who suffer from acute myocardial infarction (Rodriguez,

Carrier, Wells, 2013). However, if the DOAC were taken as an overdose or even underdosed, the risk of hemorrhagic and thromboembolic complications maximizes.

In this context, the **primary aim** WAs to identify the factors that influence the process of direct oral anticoagulants, which triggers the analysis to consider oral factors and its reactions with the medications. There WERE a few factors that directly influence the process of DOAC:

1. Concomitant medications

2. Food intake

3. Pre-existing Diseases

However, a specific genetic mutation in the gene coding has also been suspected as an influencer in triggering the oral coagulation of medications (Ewen, 2014). On the contrary, there are a few factors that could affect the process of oral coagulation in the patient under the therapy session (Bauer, 2015). These factors include alcoholism, hyperactivity, and pre-existing diseases like fever or diarrhea. Alongside, oral coagulation therapy is also affected by malignancies such as hyperthyroidism, hepatic dysfunction, or cardiac dysfunction that could slow down the effectiveness of direct oral coagulation therapy (Bauer, 2015). Being a highly triggered yet effective anticoagulant therapy, DOACs require both patients and healthcare professionals to be aware of the factors that could affect the therapy and, thus, be careful about them. The DOAC also works effectively from endothelial damage to thrombosis and has also resulted in positive treatments of patients in the hospitals, including Al Ain hospital, where the practice has already started (Ewen, 2014).

2.5 Factors Affecting Anticoagulant Medications Adherence

The primary purpose of finding the factors affecting the adherence towards DOAC was to minimize the risk involved in the medication doses and to improve the efficacy of the

therapy offered to different patients. Extensive attention has been given to the DOACs because of the clinical purposes served by the therapy to understand the factors involved in it (Kiser, 2017).

The DOAC has been able to understand and overcome a few traditional concerns that were found in warfarin therapy, but the extensive use of direct oral anticoagulant is still not prescribed to all the patients while focusing on the risk involved (Rodriguez, Carrier, Wells, 2013). Certainly, DOAC is directly affected by the environmental and genetic factors, making it necessary for the health advisory to regulate and modify the doses to prevent a patient from experiencing a negative perception of the therapy (Pandya, Bajorek, 2016). Patients with chronic illness or pre-existing diseases make it very difficult for both healthcare professionals and the patient to go through effective treatment. Medication therapy, in general, has contributed more to the effective treatment of a patient, but low adherence towards medication therapies is a challenge that occasionally compromises the overall efficacy of a treatment. Thus, the patient's adherence is studied by breaking down the behavioral aspects of an individual patient to increase the probability of the patient's agreement with that of the medical advisory.

According to one research analysis, a patient's decision-making is a critical factor in establishing the relationship between the patient and the healthcare professional for effective therapy (Vermeire, Hearnshaw, Van, Denekens, 2001). Some of the quantitative analysis has also attempted to understand the factors that could result in high adherence in a patient to increase the relationship between patient and the healthcare professional. Therefore, adherence has been highlighted as one of the key factors in this study while understanding different factors affecting DOAC medication adherence.

In the USA alone, healthcare organizations have faced a financial loss of $100 billion over the last few decades, which is not only the key concern to the healthcare department but also doctors. However, the term adherence has started to change its course to concordance, which is now viewed as the patient's agreement and harmony towards medication therapy. Here, the modernized perception of adherence is an attempt to understand and acknowledge factors that were somehow not addressed while defining the term adherence (Pandya, Bajorek, 2016).

One study suggests that direct oral anticoagulant medications are most widely prescribed in the family practice, which is only involved in approximately 12% of adverse drug reactions (ADR) among the patients (Kiser, 2017). In ambulatory assistance, the patient only suffers from adverse drug reactions in case of behavioral alteration such as ignoring prescription, avoiding clinical consultation, and practice non-prescribed doses of medication (Kiser, 2017). However, adverse effects of non-adherence are alcoholics, busyness, hyperactivity, and forgetfulness were some of the behavioral and socio-economic factors found in the research. Conclusively, psoriasis treatment of a patient can be affected by both genetic and socio-economic factors that could affect the adherence towards direct oral anticoagulant medication therapy among patients.

2.6 Measuring Medications Adherence

The adherence to direct oral anticoagulant medications among patients can be broadly approached with subjective measures and objective measures. The direct or objective approach is analytical and focuses on identifying the factors responsible for the patient's adherent behavior towards anticoagulant medications. In contrast, the indirect or subjective approach focuses more on understanding the behavioral and socio-economic aspects of an individual patient. The direct approach is based upon the accurate measurement of analytical data such as the quantity of drug intake, metabolic quantities in the body, and biological

standards set by the healthcare professional regarding the drug. The direct measurement approach analyzes the behavioral approach of an individual patient, but this aspect of measurement directly reports on analytical data.

The direct measurement approach is significantly different and complicated to perform as compared to the indirect measures. The indirect measures are independent of the patient's response towards a certain framework set by the healthcare professional, making it less accurate than direct measures. The indirect or subjective measures mostly rely on behavioral approaches and may vary with time. In this approach, a patient's records are accessed, and the report is formed based on the data collected from the patient.

However, the variables have been narrowed down to mainly PDC (Proportion of days covered), MPR (Medical possession ratio), and total supply time when the drug is prescribed. One can raise concern over the refill timing as uncertain because the patient's adherence to the anticoagulant medication is not referred to in the context. Moreover, the records based on the three primary variables have been noticed to establish accurate outcomes of the patient's medical possession ratio.

MPR = Day's supply for all fills in period x 100%

Number of days in the period (PDC)

Conclusive evidence suggests that there are no concrete methods to identify the level of optimal adherence in an individual patient towards anticoagulant medication. However, the researchers consider the report to be accurate if the results exceed 80% of the complete analysis that fits the patient's records. A highly computerized system is required to access accurate refill records, including prescribed details and dispensary details about a patient. The complete medical acquisition (CMA) is dependent upon factors such as Continuous, Single Interval Measure of Medication Gaps (CSG), Continuous Measure of Medication Gaps

(CMG), and Continuous, Single Interval Measure of Medication Acquisition (CSA). Data elements such as these are accessed to improve the quality and efficiency of the analysis to form an ultimate outcome.

Chapter Three: Methodology

3. Chapter Three: Methodology

This chapter presents the procedure in which the research has been performed. It describes the site of the research, the design utilized in the study, the total employed population, the sampling procedures, sample sizes, data collection methods, and data analysis.

3.1 Ethics approval

It is worth mentioning that this study has been approved by Al Ain hospital ethics research committee (AAHEC) on the 30th of January 2020 under the registration number: AAHEC-12-19-035-v2. The proposal for the thesis has been developed and asked the permission of Al Ain hospital ethics and research committee to use their population for the study. The application of the committee has been filled and submitted. Feedback with some modifications was then done, and then the application was re-submitted. The ethics and research committee invited the researcher to interview and to present the proposal in front of the committee. A PowerPoint presentation has been developed. In December, the presentation has been done and approved on the 30th of January 2020.

3.2 Research design

This research adopted the prospective **cohort study design**. Besides, it employed this study design in gathering data based on the literature review and the findings from past examinations on adherence to anticoagulant medications among patients, for various considerations. This study design was selected owing to its varied advantages. The utilization of cohorts is mostly compulsory since a randomized controlled trial could not be ethical. For instance, in this research, one cannot intentionally prevent patients from adhering to anticoagulant medications. Therefore, a study on the factors that impact the non-adherence of DOAC relies heavily on the cohort study. Since cohort studies are perfect for measuring the

possible causes before the result has happened, this research has proved that the "causes" happened before the outcome, thus avoiding the controversy on the cause and the impact. A further benefit of this study design is that one research studied several result variables. For instance, this cohort study on patients undergoing anticoagulant medication simultaneously examined non-adherence from personal levels to socio-economic levels.

3.3 Study Instrument (questionnaire) and questionnaire developing

In this research, the researcher has employed a **questionnaire as a study instrument**. A retrieved search for literature has been done, and one of the **internationally validated questionnaires** has been used and modified to suit this study (al. Deagi,1997). On reliability, the composite reliability was more than 0.70. On validity, the researcher tested using both construct validity and content validity. For content validity, the researcher has checked face validity by requesting scholars to inspect the item of the questionnaire. Direct oral anticoagulant medications are constructs that have mostly been mentioned in past studies, and the items in the questionnaire have been retrieved from the existing literature; thus, **this questionnaire is based on a validated instrument**. The panel of the research supervisor and the student has translated the questionnaire.

Additionally, **the external panel has reviewed the translation**, which was back to forward translation, and the final Arabic version was used for the Arabic speaker patients. The first part of the data collection was administering questionnaires to the participants. They were informed about the purpose of the study and how they can respond to the closed-ended and open-ended questions provided in the questionnaire. The respondents were chosen randomly in an in-patient setting or from clinic visits.

3.4 Study Site and Settings

This research was conducted at Al Ain Hospital in Al Ain city. As a part of in-patient pharmacy services and discharge counseling and specifically, as a unit based pharmacist covering different medical wards in Al Ain hospital, where they lack a clinical pharmacist, a stroke unit, male and female surgical, Orthopedics, and Neurology were selected as research setting.

3.5 Study Patients

The target population for this research was all patients who were taking the anticoagulant medications in **Al Ain Hospital**. For this study, the respondents were patients who were already on direct oral anticoagulants. Based on a previous study was done in the UAE, which was studying the level of adherence by (al Deagi, 1977). Where the sample size was used to estimate the variability of adherence. For this study, **one month** before the set date for data collection, the potential respondents were retrieved randomly from the hospital's database CERNER, and a list of patients has been generated with all the patients who were placed on DOACs in the last year.

Furthermore, they were selected in a way that they assisted the researcher in gaining better comprehension of the adherence to DOAC in the hospital. So, whoever appears for the discharge service for counseling; they were approached and been informed about the purpose of the study. The participants were reassured that the information they provided would be for the study's aim alone and not for other reasons that might expose them to harm. The researcher used the informed consent forms to achieve confidentiality, security, and anonymity and ensured that the well-being and rights of the participants are well protected. The consent had given to the participants before they issued the questionnaires. After the patients agreed to join the study, they were asked to sign the consent forms. Then they were given a time of 10 to 15 minutes to answer the questionnaire. This study ensured the use of

acceptable policies in the protection of the participants and keeping their confidentiality at each stage of the research.

The inclusion criteria includes: a) diagnosed by the doctor; b) adults of age 18 and above c) any gender d) have taken DOAC for more than one month after being discharged. The exclusion criteria includes: a) tendency in bleeding, or trauma; b) extreme medical conditions including lung, kidney, and liver failures; c) pregnant women's; d) a family history of anticoagulation; and e) extreme impacts when prescribed with anticoagulants.

3.6 Statistical Analysis

A **quantitative approach** was used in gathering data and answering the research questions and objectives, the procedure of analyzing data involved quantitative data analysis as well. Data cleaning was done to ensure all the questionnaires were well answered. Measurement of the internal consistency of the questionnaires done by utilizing **Cronbach's** a with correlated item-total correlations. **Descriptive data analysis** (including frequencies and percentages) was used. **Categorical statistics** were expressed as percentages and numbers. The researcher used non-adherence as the independent variable. The gathered data entered into a **Microsoft Excel spreadsheet version, 2010**. The collected data was cleaned and analyzed based on the research questions by the Statistical Package for the Social Sciences version 20.0 (Heale & Twycross, 2015). **Chi-square tests** have been employed to examine the relationship between dependent and independent variables. Variables with the p-value ≤ 0.05 were significant and thus, subjected to multivariate analysis. After data analysis, the presentation was done in the form of charts, tables, and graphs.

Chapter Four: Results

4. Chapter Four: Results

In order to address the research questions, descriptive statistics, specifically percentages, were used to calculate the overall score for each category and the corresponding categorical items respectively. The results are presented in table format and with figures embedded in each respective section.

A total of 238 responses were received. Of the 238 survey responses received, 30 (12.6%) were incomplete, and eight survey respondents (3.36%) did not meet the inclusion criteria, thus, leaving a total of 200 (84.03 %) valid surveys for analysis with descriptive and inferential statistics.

Table 1: Respondents demographics details

	Frequency	Percentage
Male	60	30%
Female	140	70%
Age below 45 years	88	44%
Age above 45 years	112	56%
Arabs	150	75%
Non- Arabs	50	25%
Living with relatives	160	80%
Living alone	30	15%
Living with non-relatives	10	5%
Total	200	100%

More than half of the participants were above the age of 45 years (n = 112, 56%) (Table 1, Figure 1). In terms of gender, 30% (n=60) were males and 70% (n=140) were females (Table 1, Figure 2). In terms of nationality, 75% of the participants were Arabs, and around 25% were non-Arabs (Table 1, Figure 3). In terms of adherence, more than half of the

respondents (n=114, 57%) recorded adherence to anticoagulant medication compared to those who did not (n=76, 38%), and a small number of respondents could not tell their adherence status (n=10, 5%). A very high number of respondents (n =196, 98%) lived with relatives, and a high number (n =186, 93%) indicated that they took medication twice a day. Besides, 46% (n=92) had attended the day clinic for at least six months.

Table 2: Mean Ages and Standard Deviation of Respondents

Participants' Age: Means and Standard Deviations (n = 200)

Variable	Range	M	*SD*
Age	25- 63	48.07	8.74

Note. M = Means   SD = Standard Deviation

Figure 1: Age Representations of Respondents

	Age above 45 Years	Age below 45 Years
■ Percentage %	76	24
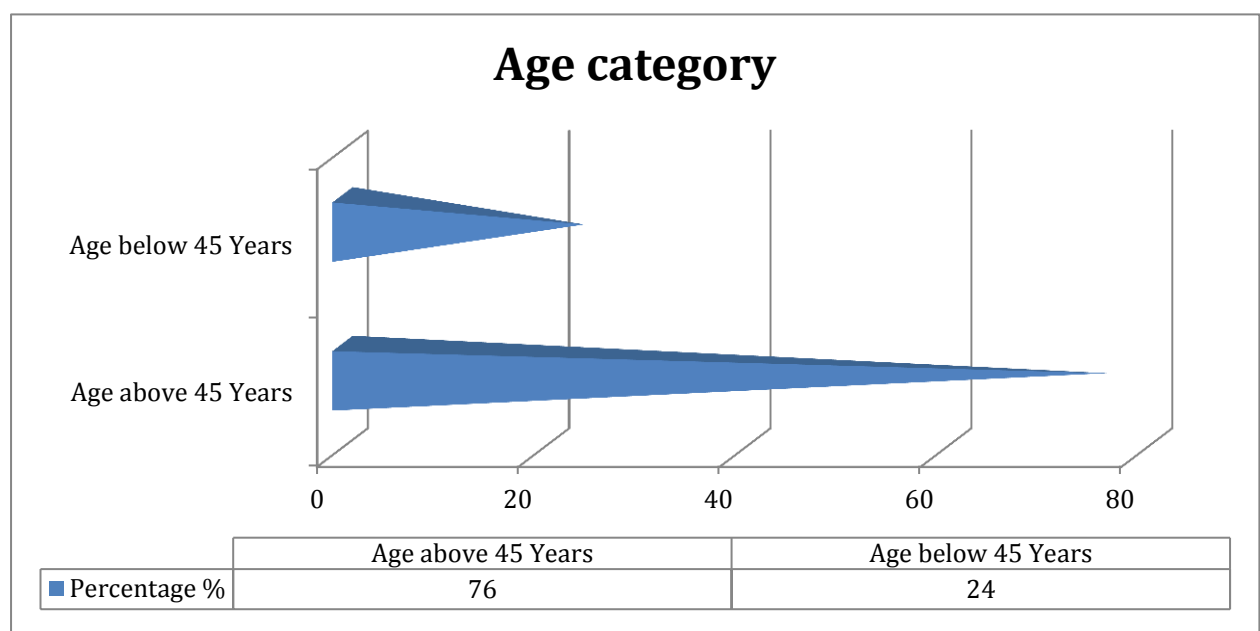
Figure 2: Gender Representations of Respondents
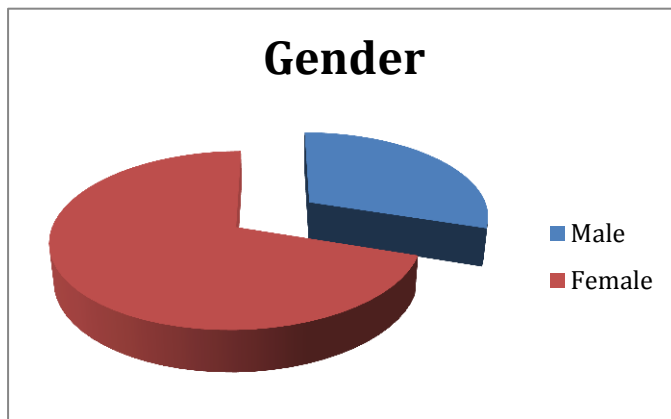
Figure 3: Nationality Representations of Respondents
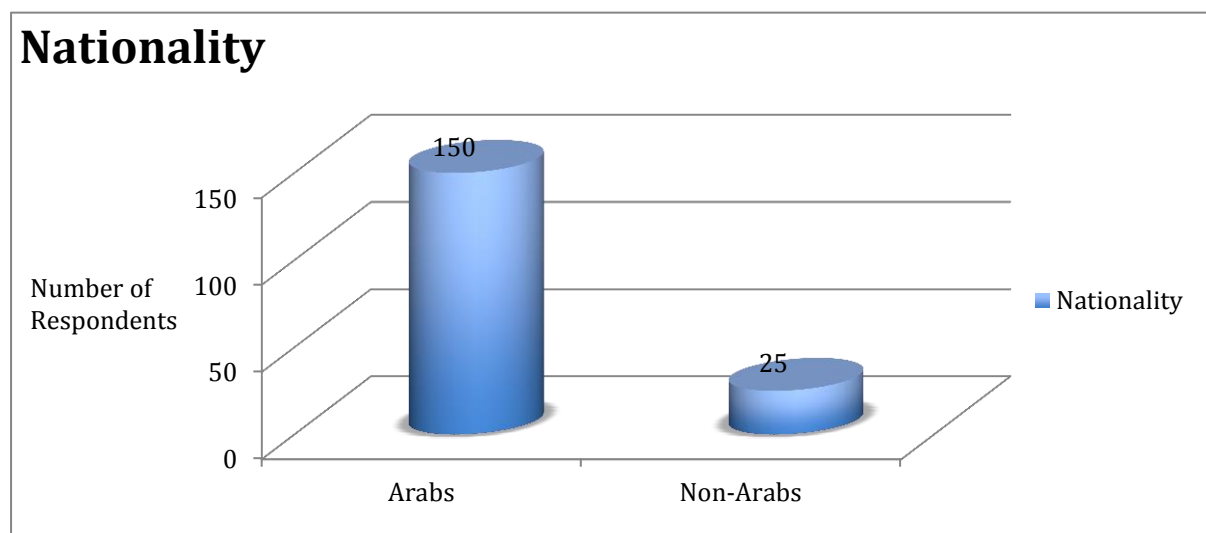
In terms of their remembering to take anticoagulation medicine, about three-quarters of the respondents (n=152, 76%) recorded positive results. The majority of them recorded mild side effects from the anticoagulation medication (n=157, 78.5%), and about a third (n=62, 31%) felt inconvenienced about adhering to the treatment. Other respondents stopped taking anticoagulation medicine when feeling better (n=38, 19%), and others simply stopped without telling their physician (n=37, 18.5%). Additionally, Other respondents forgot to carry medications when they travel (n=30, 15%). Majority of the respondents (n=142, 71 %)

replied that sometimes they had missed a dose, while few (39, 19.5 %) called their provider to follow up, and 31.5% (63) overdosed for the same reason, and 67.5% (n =135) took the next scheduled dose while informing the medical practitioner of missing the dose, as 32.5% discontinued the scheduled dose (Table 3, Figure 4).

Table 3: Factors Affecting Adherence

Adherence to DOACs	n	%
Forget to take DOAC while travelling	30	15
Experience side effect from DOAC	157	78.5
Financial difficulty in acquiring DOAC	172	86
Stopped taking DOAC when feeling better	38	19
Discontinue the scheduled dose when missing it, without informing HCP	65	32.5

Figure 4: Factors Affecting Adherence

Figure 4: Factors Affecting Adherence

	Forget to take DOAC while travelling	Experience side effect from DOAC	Financial difficulty in acquiring DOAC	Stopped taking DOAC when feeling better	Discontinue the scheduled dose when missing it, without informing HCP
n	152	157	62	38	65
%	76	78.5	31	19	32.5
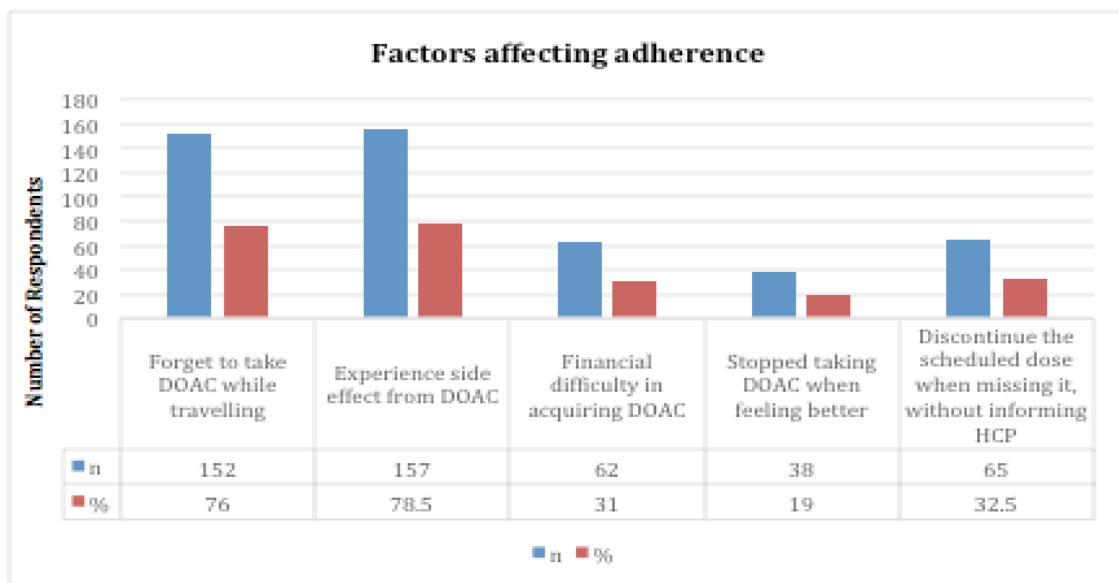
As reflected above, many respondents (n =191, 95.5%) were aware that adhering to DOACs will improve their health, and (n=180, 90%) stated that they read the instructions before taking the medications. A large number of respondents (n =192, 96%) visited the anticoagulation clinic for less than a month. About (n=198, 99%) of respondents indicated that they were knowledgeable about the use of DOAC medications. An overwhelming number of 86 % of respondents (n =172) indicated they experienced financial constraints in getting the medication. However, Slightly over 97% (n =194) of respondents indicated that the taste or smell of DOAC is acceptable (Table 4, Figure 5).

Table 4: Measuring Patients Knowledge

Patients knowledge	n	%
Patient awareness about DOAC and its uses	198	99
Reading the instructions before taking DOAC	180	90
Aware that adhering to DOAC will improve patients health	191	95.5
Calling healthcare provider immediately in case of missing dose	135	67.5

Figure 5: Measuring patients knowledge
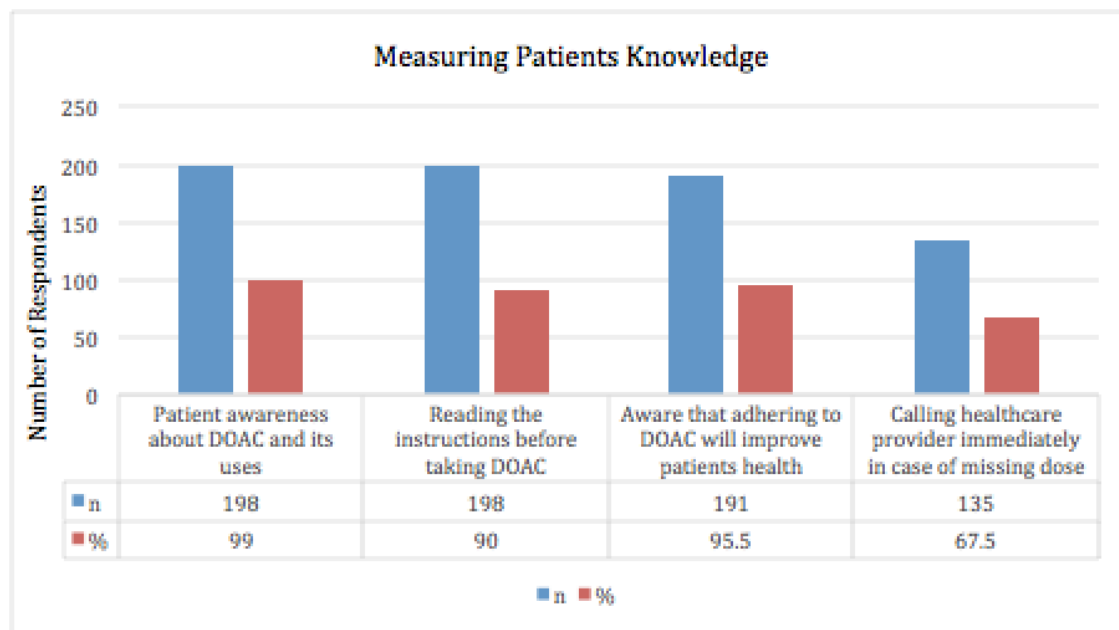
Overall, the findings in this study suggest that most of the respondents were knowledgeable about the use of DOAC and the benefits of adhering to it. Furthermore, the respondents had positive attitudes toward reading the medication instructions and following it. On the other hand, forgetfulness, experiencing side effects, and financial constraints have a substantial negative impact on patient adherence.

The correlation between adhering to DOAC and financial difficulty in acquiring medications:

Table 5: Cross tabulation between Adherence to DOAC and financial difficulty

How often have you adhered to your anticoagulant medication? * Do you have any financial difficulty in acquiring medications? Cross tabulation					
			Do you have any financial difficulty in acquiring medications?		Total
			Yes	No	
How often have you adhered to your anticoagulant medication?	Once a day	N	6	0	6
		%	100.0%	0.0%	100.0%
	Twice a day	N	2	3	5
		%	40.0%	60.0%	100.0%
	Thrice a day	N	172	14	186
		%	92.5%	7.5%	100.0%
	I don't remember	N	0	3	3
		%	0.0%	100.0%	100.0%
Total		N	180	20	200
		%	90.0%	10.0%	100.0%

Table 6: Correlation between Adherence to DOAC and financial difficulty

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	42.820a	3	0.000
Contingency Coefficient	0.420	3	0.000

The Chi-Square Tests show that there is a moderately significant correlation between the adhering to DOAC and financial difficulty in acquiring medications at 0.05 level of significance.

The correlation between the adhering to having anticoagulant medication and how adhering to anticoagulant medications improve health and prevents potential harms:

Table 7: Cross tabulation between Adherence to DOAC and improve health and prevents from harms

How often have you adhere to your anticoagulant medication? * Does adhering to your anticoagulant medications will improve your health and prevents you from potential harms? Cross tabulation					
			Does adhering to your anticoagulant medications will improve your health and prevents you from potential harms?		Total
			Yes	No	
How often have you adhere to your anticoagulant medication?	Once a day	N	6	0	6
		%	100.0%	0.0%	100.0%
	Twice a day	N	4	1	5
		%	80.0%	20.0%	100.0%
	Thrice a day	N	159	27	186
		%	85.5%	14.5%	100.0%
	I don't remember	N	3	0	3
		%	100.0%	0.0%	100.0%
Total		N	172	28	200
		%	86.0%	14.0%	100.0%

Table 8: Correlation between Adherence to DOAC and improve health and prevents from harms

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.656[a]	3	0.647
Contingency Coefficient	0.091	3	0.647

The Chi-Square Tests show that there is no significant correlation between the adhering to DOAC and how adhering to DOAC will improve health and prevents potential harms at 0.05 level of significance.

Chapter Five: Discussions

5. Chapter Five: Discussions

This research was conducted to identify the factors affecting adherence to direct oral anticoagulant medications among patients attending **Al Ain hospital**. More than half of the patients stated sufficient adherence, which concurs with the most recent research, was performed in Korea in April 2020. The proportion of adherent NOAC users was 64.0%. Compared with the level of non-adherence towards NOAC. Adherent NOAC users were at lower risks of ischemic stroke, systemic embolism, and myocardial infarction (D.Kim, et al.,2020). Similar results were identified in a systematic review, and meta-analysis was done based on the Morisky medication adherence scale (MMAS-8) and telephonic interview. The adherence level towards NOACs was about 75.6%. Moreover, the highest level ranked in patients treated with dabigatran compared with those treated with apixaban or rivaroxaban (A.ELnour et al.,2016). Another recent research study showed the level of adherence for all 4 NOACs (apixaban, dabigatran, rivaroxaban, and edoxaban) was around 95.4% in the once-daily dosing group and 93.4% in the twice-daily group (Proietti& Lane, 2020). There is less information concerning psychosocial and adherence to anticoagulants.

5.1 Patient's Knowledge, Education and Literacy Level

The results of this study indicate that a higher percentage of the participants (n =191, 95.5%) had the knowledge concerning adherence to the DOAC medications, with 90% (n=180) having to go through the instructions to improve their knowledge on how to adhere to the anticoagulants. The study results prove that the participants were aware of the significance of taking and completing anticoagulant doses. A total of 164 (82%) respondents proved to have adequate knowledge on the effectiveness of complying with the medications. This concurs with research conducted by Al-Neyadi et al. (2018) on adherence with the use

of anticoagulants, whereby most of the participants in the research followed the commended procedures for complying with consuming the anticoagulation medication.

The authors realized a desirable and essential connection between the adherence of DOAC medication and the knowledge levels of patients. This could be translated that more learned patients have a clear comprehension of the drug issues, which improve their adherence. In this context, Garkina, Vavilova, Lebedev and Mikhaylov (2016) asserted that the patient knowledge of the treatment directly impacts adherence with DOAC guidelines.

In this study, there was no notable variation between the age or sex of the patients and their adherence levels. Contrary to the current study results, Kiser (2017) identified higher adherence in men compared to women and the old aged individuals highly adhered to DOAC medications. Besides, in a study conducted by Leung, McAllister, Selim and Fisher (2017), it was noted that there was a variation in the knowledge of patients on anticoagulation among different age groups. The elders using anticoagulant medications had poor information on anticoagulant adherence compared to younger individuals.

The research also identified that individuals who could afford therapy had higher adherence, which concurs with research conducted in Brazil that recognized drug expenses as element-impacting adherence (Aidit et al., 2017). In Brazil, individuals who had better adherence used less on the drugs than individuals who had less adherence. Comparatively, adherence was better in individuals with better incomes, suggesting that the patients could afford the therapy. Therefore, the educational method in improving the patient's knowledge should put into consideration individual variations. For individuals with low-income levels, medication, and therapy adherence can be a crucial issue. This statement is supported by Leung et al. (2017) research on the knowledge of cardiovascular illnesses among patients in

Canada, which identified that patients from a low socio-economic background had reduced knowledge of the illnesses due to poor follow-ups.

Evaluating the reading skills of patients in the medical environment is significant and offers information into a patient's potential of functioning well in the healthcare setting. In this research, most respondents were able to read and understand the instructions, which is linked to their education levels. This concurs with Rossi et al. (2018) research that concluded that the levels of illiteracy also had a notable association with the knowledge of the underprivileged patients towards warfarin treatment. In the U.S, researchers have identified that illiteracy directly associated with poor health and illness (Coleman et al., 2017; Raparelli et al., 2017). The impacts of health illiteracy include reduced information on anticoagulation therapy, lack of comprehension of services, reduced rate of adherence, elevated rates of admissions, high healthcare expenses.

Patient knowledge can also be improved by using written patient education materials, to offer information on health promotion, assessment processes, therapies, and medications. Patients require information that they can easily comprehend to assist them in undertaking individual-care behaviors. The capability of extreme adverse impacts of anticoagulation treatment needs the written client information tool at a level that the patients can comprehend. Elderly patients who have weak reading potentials are at a significant threat of not adhering with the guidelines or instructions due to the challenges they encounter in developing queries to ask healthcare providers, including during follow-ups, and they later encounter the burden of embarrassment and shame connected to illiteracy.

Healthcare professionals have a role of using education tools that will attain the standard education requirements of illiterate patients. Information that can be understood is significant in minimizing healthcare challenges to patient learning and improving patient

results. Several procedures can be employed in improving patient interaction with physicians. Utilizing visual tools (such as drawings and pictures) while verbally giving guides to patients, can elevate the possibility that the patient will recall the information in comparison to purely offering verbal guides. Another method that can be employed is audiotaping. In one research, researchers identified that illiterate patients for an audiotape than paper equipment written at a suitable level (Rodriguez et al., 2013).

Patients require being aware of what they have been prescribed and the reasons, and the probable side effects as well. Inadequacy in the client's knowledge can have high adverse impacts on the control of diseases. It is therefore proposed that categories including inadequate knowledge and illiteracy, lack of understanding of the medications and therapy, beliefs and perceptions of a disease and therapy approach, and side impacts be addressed to shape the patients' knowledge to improve their ability to comprehend and engage in their treatment. To enhance adherence by integrating patient-centered care, considering educational levels and the relationship with health literacy and adherence in clients using anticoagulant medication for a disease should not be overlooked. Enacting individual-driven educational approaches concentrating on enhancing the illness and medication-connected knowledge of the patient can enhance adherence.

5.2 Self-belief and Perception about Medication

In this study, other participants stopped using anticoagulant medicines when they started improving (n=38, 19%), 63 (31.5%) began overdosing for the same purpose, and 135 (67.5%) took the next planned dose while telling the healthcare provider of missing the dose, as 32.5% completely stopped taking the drugs for no specific reason. The study results are consistent with the findings of a research conducted by Frappé et al. (2017) to understand the individual's perception of the condition and their beliefs on the DOAC, as it associates with

adherence with oral anticoagulant treatments. The findings indicated that 40% of the respondents started overdosing, believing that the medication would work faster during an overdose (Frappé et al., 2017). The study identified a theory-based educational model that notably enhances adherence in patients within the initial six months of usage, even though the advantages do not seem to be long-lasting. The latter study shows the importance of approved psychometric equipment in comprehending and developing strategies that enhance anticoagulation management in patients. Nevertheless, the findings also prove that more work is required to comprehend approaches that can assist clients in ensuring successful levels of individual management and control, specifically with the utilization of direct oral anticoagulants.

The availability of DOAC has resulted in a drive to ensure that patients are recognized and provided suitable therapy. Nevertheless, even though the medications are simple to utilize, both from a physician and patient point of view, inadequate formal medical follow-ups and strengthening of adherence could be an issue, as proven in the present research results. Present cost-evaluations that assert that these anticoagulants are cost-effective (Garkina et al., 2016), presume full adherence to the treatment. This is not a clear definition of medical procedures and responsibilities. Therefore, comprehending patient perceptions on their diseases, their beliefs on the anticoagulants provided and their anticoagulation-associated life quality, should assist us in comprehending the type of aid patients undergoing anticoagulation therapy might need to ensure adherence. This should not be advantageous to the patient; it should assist in making sure commissioners earn importance for money and offer the present and possibly future financial challenges in healthcare provision.

5.3 Side Effects of the Medication

Most of the respondents reported mild side effects from the use of DOACs (n=157, 78.5%), and approximately a third (n=62, 31%) were feeling inconvenienced on matters concerning adherence with the therapy. Contrary to the study findings, Ewen et al. (2014) identified that 70% of the respondents did not view DOAC as having undesirable side effects and that their adherence to the anticoagulant was high. Adherence with therapy is significant, particularly in controlling long-lasting illnesses. DOACs are the most broadly utilized anticoagulant in the therapy or prevention of atrial fibrillation due to administration eases no need for monitoring and INR check-ups. Though, non-adherence makes individuals vulnerable to extreme and severe side effects, including bleeding.

In a study conducted by Zhao et al. (2017), patient knowledge of the several facets of using DOAC was low. An area to be concerned about was their inadequate comprehension of what procedures to enact in case of an adverse effect like bleeding, which can be dangerous. Their inadequate comprehension of the adverse effects of DOAC is so concerning. The most significant side effect include natural bruises and hemorrhage. Nevertheless, only 53% had hemorrhages, while 32% reported bruises as a possible effect. Therefore, healthcare providers should consider the knowledge gaps and become more dedicated to educating patients on issues concerning the threats of bruises, hemorrhage, and other signs that can demand immediate medical help and care.

In a study performed by Coleman et al. (2017), 31% of the participants encountered complications, and 13% were admitted due to the side effects encountered during treatment with the anticoagulant. This concurs with a past study that has proved that admission rates of

4.5 per 100 patients per year (Raparelli et al., 2017). Past research proves that monitoring the sign of the disease is the best prediction of DOAC activities and adverse effects (Garkina et al., 2016). Presuming a fundamental level of understanding, healthcare experts should discuss the idea of monitoring with their patients when prescribing direct oral anticoagulants so they can ensure follow-ups to avoid the occurrence of extreme side effects.

5.4 Implications for Further Studies

This study will have a direct effect on improving patient clinical outcomes concerning patient use of DOAC. The findings of this research assist in informing the enactment of patient-centered integrated disease management, and there is a need to design more structured counseling services at Al Ain hospital and in any institution that provides anticoagulation services. Clinical pharmacists should focus more on patients with this group of medications and raise awareness for the patient on DOAC and strengthening the need for other studies. Putting into consideration the defined and proven association between patient knowledge, health literacy, and adherence, more substantial researches are needed to identify whether enhancing these patient-centered elements of anticoagulant management in diseases can result in improved patient results. Furthermore, this research identifies gaps in the knowledge of respondents using anticoagulants. Larger prospective research evaluating anticoagulant knowledge in this specific group will be significant in recognizing particular areas of inadequate knowledge to enhance education concerning anticoagulants. When conducting further research, it is recommended that a larger sample size from various settings be employed. Further studies should be developed to prospectively validate the Molrisky research as an adherence measure in individuals with extreme anticoagulation (Liu et al., 2018).

Chapter Six: Conclusion and Recommendation

6. Chapter Six: Conclusion and Recommendation

This research has highlighted the most important factors that have a negative impact on adherence to DOAC, which are economic constraints, forgetting taking medication while traveling, and discontinuation of DOAC due to side effect without informing the physician or clinical pharmacist. In summary, the research results trend towards more stress in patient-directed educational approaches in anticoagulation healthcare institutions. Adherence is one of the key aspects that can impact anticoagulation management in patients undertaking direct oral anticoagulant medications. Based on this research, most of the studies respondents had more than average information on anticoagulants, and under half of the studies, participants had good or satisfactory adherence levels. Results showed a desirable notable association between a patient's adherence to anticoagulants and their knowledge levels. Considering the significance of adherence in attaining a stable concentration of plasma with direct oral anticoagulants and inadequate routine lab tracking, Brown et al. (2016) suggest that individuals being prescribed with direct oral anticoagulants may need continuous follow-ups by healthcare providers. This will help in ensuring the patients comply with the prescribed medications.

There are more adequacies in the knowledge and contentment of the patients utilizing anticoagulant therapy. Such adequacy reduces concerns with the utilization of anticoagulants and positively impact disease management. However, some patients have inadequacies in the knowledge and contentment of anticoagulation treatment. Deficits like this lift the concern threshold with anticoagulant utilization and undesirably impact disease management. Adherence with drug treatment associated negatively with limited knowledge, educational levels, and contentment with the services offered. All these resulted in reduced disease management among the patients. To effectively attain the anticipated disease levels in the

anticoagulation healthcare institutions, healthcare providers should consider all the discussed aspects, develop properly planned patient-centered programs for those using anticoagulants concentrating on enhancing drug utilization awareness, addressing treatment issues, not to assume constant assessment of anticoagulation medical operations, adding more professional staff, and asking for the views of the parents on each visit.

Simple individualized-report measures can be employed in recognizing patients who have good or poor adherence. In patients who report proper adherence but have poor management, other contributing aspects to inadequate adherence should be examined. In patients who show insufficient adherence, targeted strategies and approaches to enhance adherence should be adopted. In general, there seems to be some weak proof supporting the positive impacts of educating patients, and education plus patient choice assistance, on anticoagulants, at least in the short-term. The lack of long-lasting effects proves that programs to boost patient knowledge could be of great significance. A structured educational plan for patients and their family members should be created to enhance their awareness, adherence, and also minimize the occurrence of anticoagulant adverse effects before they get discharged from the healthcare institutions too. An in-service structural plan concerning anticoagulant treatment should also be offered for nurse practitioners based in the acute care departments to update their awareness and practices on anticoagulant treatments. Offering education subjects in the diploma or degree nursing courses linked to anticoagulant treatment should also be considered.

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Appendices

Appendices

Appendix 1: Ethical Approval

AL AIN HOSPITAL
مـستشـفـى الـعيـن

AAH Ethics Committee

TO: **Mariam Ibrahim Al Blooshi;** maralblooshi@seha.ae
Student, Al Ain University of Science and Technology, Al Ain
Pharmacist-1, Pharmaceutical Institute, Al Ain Hospital

CC: AAH Ethics Committee

Date: 30th January 2020

RE: **Proposed Research Study:** *The Factors Affecting Adherence to Anticoagulant Medications among Patients Attending Al Ain Hospital*

Ref: *AAHEC-12-19-035_V2*

Dear Ms. Mariam:

On behalf of the Al Ain Hospital Research and Ethics Governance Committee, I am pleased to confirm a favorable ethical opinion for the above research on the basis described in the application form and supporting documentation.

The favorable opinion is given provided that you comply as per the context set out in your research study.

You are hereby advised to commence your research study at Al Ain Hospital. In keeping with our policy, the AAH Research and Ethics Governance Committee is kindly requesting you to report any ethical concerns/considerations that may arise during the course of your research, in a timely manner.

Annual Reports plus terminal reports are necessary and the Committee would appreciate receiving copies of abstracts and publications should they arise.

The REC approval is only valid for two years (24 months from the date of the approval letter issued) however it should be renewed yearly for the continuation of the approval. Two (2) months before expiry of the validity period, the Continuing Review Form should be submitted to REC. Late submissions may not be processed in time, and you are not allowed to continue the study without approval.

The Committee is wishing you a success for this project.

Respectfully,

Dr. Ghanem Ali Al Hassani
Acting Deputy Chief Medical Officer (A)
Al Ain Hospital

Dr. Ghanem Ali Al Hassani
Chairman, AAH Research Ethics Committee
Acting Deputy Chief Medical Officer
Al Ain Hospital

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www.alain-hospital.com

SEHA صحة
شركة أبوظبي للخدمات الصحية ش.م.ع
Abu Dhabi Health Services Co. P.J.SC

Appendix 2: Questionnaire

You are invited to participate in this questionnaire, which is about [Factors Affecting Adherence to direct oral Anticoagulant Medications among Patients Attending Al Ain Hospital]. This is a research project being conducted by [Mariam Ibrahim Al Blooshi], a student at Al Ain University. Thank you for taking the time to fill in this questionnaire; It should take approximately 15 [minutes] to complete. Your answers will be treated with complete confidentiality.

PATIENT INTERVIEW

Demographic details

Admission date: _____/_____/_____ Ward:_____

OR

Clinic date: _____/_____/_____Clinic _____

QUESTIONS

1. Age (years)…………………

2. Gender: Male ☐   Female ☐

3. Nationality   Arabs ☐   Non-Arabs ☐

4. Are you living with relatives?

Yes ☐   OR   No ☐

If yes: with whom?

- I.   Spouse ☐
- II.   Children ☐
- III.   Grandchildren ☐
- IV.   Sibling/s ☐
- V.   Other relatives/s ☐
- VI.   Non-relatives/s ☐

5.When was your last visit to anticoagulation clinic?

- VII.   In the last one month ☐
- VIII.   Between 1 and 2 month ago ☐
- IX.   2 months ago ☐
- X.

Medication-taking behaviors

6. How often have you adhere to your anticoagulant medication?

- I.   Once a day ☐
- II.   Twice a day ☐
- III.   Thrice a day ☐
- IV.   I don't remember ☐

7. Do you sometimes forget taking medications as prescribed by the doctor?

Yes ☐   OR   No ☐

8. What is the best thing to do after missing the dose of anticoagulant medication?

   I.   Call your healthcare provider immediately ☐
   II.   Double up the next dose ☐
   III.   Take the next scheduled dose and inform your healthcare provider ☐
   IV.   Discontinue the scheduled dose ☐

9. When you travel, do you sometimes forget to carry your medication?

Yes ☐   OR   No ☐

10. Sometimes when you feel better, do you stop taking anticoagulation medication?

Yes ☐   OR   No ☐

11. Have you ever felt inconvenienced about adhering to your treatment plan?

Yes ☐   OR   No ☐

12. Do you have any financial difficulty in acquiring medications?

Yes ☐   OR   No ☐

   If yes : When do you purchase the medication?

      I.   Daily☐
      II.   Weekly☐
      III.   Monthly☐

Patients' reaction towards DOACs

13. Have you experienced any side effect after taking anticoagulant medications?

Yes ☐   OR   No ☐

If yes : Could you tell me about the side effects and the medications involved?

Medication**:** _____

Side-effects**:** _____

14. Do you think that any of your medications were in any way responsible for you being admitted to the hospital?

      Yes ☐   OR   No ☐

15. How would you describe the taste and smell of the prescribed medications?

      I.   Good ☐
      II.   Above average (fair) ☐
      III.   Below average (poor) ☐

Patients' background knowledge about DOACs

16. Are you aware why you are taking this medication and for what its used?

Yes ☐   OR   No ☐

17. Do you read the instructions before taking the medication?

Yes ☐   OR   No ☐

If No: Who helps you?

   I.   Spouse ☐
   II.   Relative ☐
   III.   Nursing home worker ☐
   IV.   Visiting nurse ☐
   V.   Other ☐

18. Does adhering to your anticoagulant medications will improve your health and prevents you from potential harms?

Yes ☐   OR   No ☐

   If yes : Could you please explain how?

   _____

Beliefs associated with anticoagulant medications adherence

19. I want to ask you a few final questions about your perception of the hospital and the healthcare providers.

   First of all, do you like the hospital environment?

Yes ☐   OR   No ☐

20. What is your perception of the services provided in this hospital?

   I.   Good ☐
   II.   Fair ☐
   III.   Poor ☐

21. Do you trust the doctors and nurse who attend to you??

Yes ☐   OR   No ☐

22. Do you believe that taking anticoagulation medication will improve your condition?

Yes ☐   OR   No ☐

ندعوك للمشاركة في هذا الاستبيان عن موضوع (العوامل التي تؤثر على الالتزام بالأدوية المضادة للتجلط بين المرضى الذين يرتادون مستشفى العين). ويتم اجراء مشروع هذا البحث بواسطة مريم إبراهيم البلوشي، طالبة بجامعة العين للعلوم والتكنولوجيا. ونشكركم على لأخذ وقتاً لملأ هذا الاستبيان والذي سيستغرق تقريبا حوالي ١٥ دقيقة لإنهائه. ستعامل مع اجاباتك بسرية تامة.

<u>مقابلة مع المريض</u>

تاريخ الدخول للمستشفى: _____/_____/_____ عبر: _____

أو

تاريخ العيادة: _____/_____/ _____ اسم العيادة: _____

<u>الأسئلة</u>

١. العمر (سنة): _____

٢. النوع: ذكر ☐   أنثى ☐

٣. جنسية العرب ☐   غير العرب ☐

٤. متى كانت آخر زيارة لك لزيارة عيادة لمنع تجلط الدم.

I.   منذ شهر واحد مضى.
II.   في مدة تتراوح من شهر لشهرين.
III.   منذ شهرين مضوا.

٥.من فضلك، هل يمكن أن تخبرني من يعيش معك؟

I.   الزوج أو الزوجة ☐
II.   الأطفال ☐
III.   الأحفاد ☐
IV.   الاخوة ☐
V.   أقارب آخرون ☐
VI.   غير أقارب ☐
VII.   أعيش بمفردي ☐

6.كم مرة تتناول الدواء ؟

I.   مرة يومياً
II.   مرتان يومياً
III.   ثلاث مرات يومياً
IV.   لا أتذكَر

٧. هل تدرك لماذا تتناول هذا الدواء ولماذا يستخدم؟
نعم o أو لا o

٨. هل تقرأ التعليمات قبل تناول الدواء؟

نعم ☐   أم   لا   ☐

I.   إذا كان نعم: من يساعدك؟ ☐

53

II. الزوج أو الزوجة ☐

III. أحد الأقارب ☐

IV. ممرضة مقيمة بالمنزل ☐

V. ممرضة زائرة ☐

VI. غير ذلك ☐

٩. هل شعرت بأي أعراض جانبية بعد تناول هذا الدواء؟

نعم ☐ أم لا ☐

إذا كانت الإجابة بنعم: هل يمكنك أن تخبرني عن الأعراض الجانبية التي سببها هذ الدواء؟

الدواء: _____

الأعراض الجانبية: _____

١٠. هل يحدث أحيانا أنك تنسى تناول الدواء كما وصفه لك الطبيب؟

نعم ☐ أم لا ☐

١١. ما هو أفضل شيء يمكنك القيام به إذا حدث ونسيت تناول جرعة من الدواء المضاد لتجلط الدم؟

I. اتصل بمزود الرعاية الصحية على الفور. ☐

II. اضاعف الجرعة التالية. ☐

III. أتناول الجرعة التالية في موعدها وأخبر مزود الرعاية الصحية الخاص بي. ☐

IV. أتوقف عن تناول جرعة الدواء المضاد للتجلط تماما. ☐

١٢. أحيانا، عندما لا تشعر بتحسن أثناء تناول دواء منع تجلط الدم، هل توقف عن تناوله دون إخبار طبيبك؟

نعم ☐ أم لا ☐

١٣. هل يحدث أن تنسى أن تحمل دوائك معك عندما تسافر؟

نعم ☐ أم لا ☐

١٤. هل توقف عن تناول دواء منع تجلط الدم عندما تشعر بتحسن ؟

نعم ☐ أم لا ☐

١٥. هل حدث أبدا أنك شعرت بالانزعاج من الالتزام بخطة العلاج الخاصة بك؟

نعم ☐ أم لا ☐

١٦. م مرة وجدت صعوبة في تذكر تناول دواء منع تخثر الدم؟

I. أبدا

II. نادرا

III. أحيانا

IV. طوال الوقت

١٧. هل الالتزام بالأدوية المضادة للتخثر سيحسن صحتك ويمنعك من الأضرار المحتملة؟

نعم o أو لا o

إذا كانت الإجابة بنعم: هل يمكنك توضيح كيف؟

١٨. هل تعتقد أن أي من أدويتك كانت مسؤولة بأي حال من الأحوال عن دخولك للمستشفى؟

نعم ☐ أم لا ☐

١٩. هل تواجه أي صعوبات مالية في الحصول على الدواء؟

نعم ☐ أم لا ☐

إذا كانت الإجابة بنعم: متى تقوم بشراء الدواء؟

I. يومياً
II. اسبوعياً
III. شهرياً

٢٠. كيف تصف اختبار وبرامجة الأدوية الموصوفة لك؟

I. جيدة
II. فوق المتوسطة (معقولة)
III. تحت المتوسطة (ضعيفة)

٢١. أريد أن أسألك عدة أسئلة قليلة أخيرة عن رأيك عن المستشفى ؟

أولاً، هل تعجبك بيئة المستشفى؟

نعم ☐ أم لا ☐

٢٢. ما هو رأيك في الخدمات المقدمة لك في هذه المستشفى؟

I. جيدة
II. متوسطة
III. ضعيفة

٢٣. هل تثق بالأطباء والممرضين الذين يقدمون لك الرعاية؟

نعم ☐ أم لا ☐

٢٤. هل تسعى للحصول على رعاية طبية عند تخطيك تناول دواء منع تجلط الدم؟

نعم ☐ أم لا ☐

٢٥. هل تعتقد ان تناول الدواء المضاد لتجلط الدم سوف يحسن حالتك؟

نعم ☐ أم لا ☐

Appendix 3 : Informed Consent Form for patient

This Informed Consent Form is for patients attending Al Ain Hospital on Anticoagulant Medication who are invited to participate in the research on anticoagulant medication.

The title of the research project: Factors Affecting Adherence to Anticoagulant Medications among Patients Attending Al Ain Hospital

Name of Principal Researcher: Mariam Ibrahim Al Blooshi

Organizational affiliation: College of Pharmacy Al Ain University of Science and Technology

This consent form has two parts:

Part 1: Information sheet (to share information about the research with you)

Part 2: Certificate of Consent (for signature if you agree to participate)

As a participant, you will keep a full copy of the informed consent form (Please read through)

Part 1: Information

Introduction

I am Mariam Ibrahim Al Blooshi, a student at College of Pharmacy Al Ain University of Science and Technology. I am conducting a research about Factors Affecting Adherence to Anticoagulant Medications among Patients Attending Al Ain Hospital. I am inviting you to be part of this research. Where there are some words that you do not understand, please ask for assistance or explanation. You can also ask any questions of concern to, me, the doctor or staff in the hospital.

Purpose of the research

This research assesses the issues that arise among patients on anticoagulant medication. The research will help to establish the factors that affect the adherence to anticoagulant medicine for the patients. The findings are important for improving patient outcomes for the patients on coagulant medication.

Participant selection

The research invites all patients who are on anticoagulant medication in Al Ain Hospital. The inclusion criteria are that the patient should have been diagnosed by the doctor and should be undergoing anticoagulation therapy.

Terms of participation

Your participation is entirely voluntary. Whether you choose to participate or not, all services at the hospital will continue and there will be no coercion or retaliatory discrimination whatsoever.

Procedure and protocol

As a participant, you will continue receiving the treatment as routinely required from the hospital. You are required to fill in the questionnaire as accurately and honestly as possible.

Confidentiality clause

The information collected in this research will be kept confidential. It will be used by the researchers only for the purpose of the study. The results of the study will be shared through the authorized publishing channels after clearance from ethical board from the university.

Right to withdraw

You do not have to participate if you do not wish to do so. You may also stop participating at any time you choose. Your decision will be respected.

Contacts

If you have any questions, now during the study and later, please contact the lead researcher. Mariam Ibrahim Al Blooshi through the University address.

Al Ain Campus, P.O. Box, 64141, Al Ain, UAE.

Telephone +97137024888

Web: https://aau.ac.ae

Part 2: certificate of consent

I have read the forgoing information and I have had the chance to make a voluntary decision to participate. The research purpose and process has been explained to my satisfaction. I consent voluntarily to participate as a subject of study in this research.

Name of participant: _____

Signature of Participant: _____

Date: (day/month/year): _____

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نموذج الموافقة للمريض

نموذج الموافقة للمريض هذا مخصص للمرضى الذين يحضرون مستشفى العين للأدوية المضادة لتجلط الدم والمدعوين للمشاركة في البحث عن الأدوية المضادة للتجلط.

عنوان المشروع البحثي: العوامل المؤثرة في الالتزام بأدوية مضادات التخثر لدى المرضى الذين يرتادون مستشفى العين

اسم الباحث الرئيسي: مريم إبراهيم البلوشي

المؤسسة التي أنتمي اليها:كلية الصيدلة جامعة العين للعلوم والتكنولوجيا

يتكون نموذج الموافقة هنا من جزأين:

الجزء ١: ورقة المعلومات (لتبادل المعلومات حول البحث معك)

</div>

الجزء ٢: شهادة الموافقة (للتوقيع إذا كنت توافق على المشاركة)

كمشارك، سوف تحتفظ بنسخة كاملة من نموذج الموافقة (يرجى قراءته)

<div align="center">

الجزء ١: المعلومات

</div>

المقدمة

أنا مريم إبراهيم البلوشي، طالبة في كلية الصيدلة جامعة العين للعلوم والتكنولوجيا .أقوم بإجراء بحث حول العوامل التي تؤثر على الالتزام بمضادات تخثر الدم لدى المرضى الذين يحضرون مستشفى العين .أنا أدعوك لتكون جزءًا من هذا البحث .في حالة وجود بعض الكلمات التي لا تفهمها، يرجى طلب المساعدة أو الشرح .يمكنك أيضًا طرح أي أسئلة على أنا أو على الطبيب أو العاملين في المستشفى.

الغرض من البحث

هذا البحث يقيم القضايا التي تنشأ بين المرضى على الأدوية المضادة لتخثر الدم. سيساعد البحث في تحديد العوامل التي تؤثر على الالتزام بمضادات تخثر الدم للمرضى .النتائج مهمة لتحسين نتائج المرضى بالنسبة للمرضى الذين يتناولون أدوية تخثر الدم.

اختيار المشاركين

يدعو البحث جميع المرضى الذين يتناولون مضادات تخثر الدم في مستشفى العين .معايير الاشتراك هي أنه يجب تشخيص المريض من قبل الطبيب ويجب أن يخضع للعلاج المضاد لتخثر الدم.

شروط المشاركة

مشاركتكم طوعية تماما .سواء اخترت المشاركة أم لا، ستستمر جميع الخدمات في المستشفى ولن يكون هناك تمييز قسري أو انتقائي على الإطلاق.

الإجراء والبروتوكول

كمشارك، سوف تستمر في تلقي العلاج كما هو مطلوب بشكل روتيني من المستشفى .يتعين عليك ملء الاستبيان بأكبر قدر ممكن من الدقة والأمانة.

شرط السرية

ستبقى المعلومات التي تم جمعها في هذا البحث سرية .سيتم استخدامه من قبل الباحثين فقط لغرض الدراسة .سيتم مشاركة نتائج الدراسة من خلال قنوات النشر المعتمدة بعد الموافقة عليها من المجلس الأخلاقي من الجامعة.

الحق في الانسحاب

ليس عليك المشاركة إذا كنت لا ترغب في ذلك .يمكنك أيضًا إيقاف المشاركة في أي وقت تختاره .سيتم احترام قرارك.

جهات الاتصال

إذا كان لديك أي أسئلة، الآن أثناء الدراسة وما بعدها، يرجى الاتصال بالباحث الرئيسي .مريم إبراهيم البلوشي من خلال عنوان الجامعة.

حرم العين، صندوق بريد، ٦٤١٤١، العين، الإمارات العربية المتحدة.

هاتف +٩٧١٣٧٠٢٤٨٨٨

الويب https://aau.ac.ae :

الجزء ٢: شهادة موافقة

لقد قرأت المعلومات الحالية وتمت إتاحة الفرصة لي لاتخاذ قرار تطوعي للمشاركة .تم شرح الغرض من البحث وأشعر بالارتياح لذلك. أوافق طوعًا على المشاركة كموضوع للدراسة في هذا البحث.

اسم المشارك: _____

توقيع المشارك " _____

التاريخ (اليوم / الشهر / السنة): _____

Appendix 4 :Participant Information Sheet

1. Study title

Coagulation is the clotting of blood, where the blood in the body changes from a liquid to a gel form causing a clot (Bauer, 2015). It can be fatal when blood vessels are blocked by these blood clots. Anticoagulation therapy is used to reduce chances of developing condition such as strokes and heart attack from coagulation (Merel & Paauw, 2017). The title explains the factors that affect adherence to anticoagulant medicine among patients.

2. Invitation paragraph

You are invited to participate in this study. This is an academic research paper and the questions are solely related to the topic. In case of any issue where you do not understand the question please ask. Please take time to go through the questions and consider before starting the questionnaire. Thank you.

3. What is the purpose of the study?

The study seeks to establish the issues that arise among patients who are placed on anticoagulant medication. The research project will help to establish the factors that affect the adherence to anticoagulant medicine for the patients. The findings are important for improving patient outcomes for the patients on coagulant medication. The questions take about 15 minutes to answer.

4. Why have I been chosen?

The study will consist of groups of patients who have been placed on anticoagulation medicine. You were selected as a participant because you have firsthand experience on the anticoagulation therapy. The study believes as a participant, you will help give accurate and reliable information for accurate findings. The participants are selected randomly hence, there is no preference or discrimination.

5. Do I have to take part?

This is an academic research study and all selected participants are welcomed and requested to cooperate. However, it is important to note that participation is voluntary and no coercion will be used on volunteers. The information given in this study is highly confidential. There will be a consent form for the willing participants. Your willingly participation is highly appreciated.

6. What will happen to me if I take part?

The study is entirely based on the results of the questionnaires administered. The information is gathered only through responding to the questions on the questionnaire. There will be no observation or administration of any other medicine to affect your treatment process. This study relies only on your experiences while taking the anticoagulant medication to determine the risk factors and health outcomes.

7. What do I have to do?

This study does not require the participant to change their lifestyle or their medication process. The study only requires the selected participants to continue their routine in treatment as usual. The only involvement is to respond to the questions as honestly as possible. The study does not in any way impact the personal life of the participant.

8. What is the drug or procedure that is being tested?

The study seeks to establish the effects of using the anticoagulant medication on patients. This study will establish the beliefs and experiences of the patients on this medication that affect

their ability to adhere to the anticoagulant medication as administered (Brown, et al. 2016). The patients should sustain their daily routine in taking their medication.

9. What are the alternatives for diagnosis or treatment?

The study is cohort, seeking to link the risk factors related to the use of anticoagulant medicine and the health beliefs and outcomes of the patients placed on this medication. The study does not seek to establish alternative treatment, but only seeks to expose the factors related to adherence to the anticoagulation therapy.

10. What are the side effects of any treatment received when taking part?

The study will not be administering any medication to the patients who will be participating in this study. The participating patients are selected from the patients already on the anticoagulation medications. The aim is to gather information about their experiences with the anticoagulation therapy.

11. What are the possible disadvantages and risks of taking part?

The study has ensured that the information gathered will be confidential. The identity of the participating patients will be concealed and thus, no person will have access to any information that they can use to discriminate on the patients. Additionally, there is no new medications administered, hence, there is entirely no risk or disadvantage of taking part in the exercise.

12. What are the possible benefits of taking part?

The advantage to taking part in the study is that you will be part of the team that will lead change in the care for patients with coagulant health conditions. Through the findings of this study, recommendation is made on how to best address the issues surrounding the adherence of patients to anticoagulant medications, hence, improve health outcomes for patients.

13. What if new information becomes available?

During the research there may be need to introduce other aspects for the study. This includes any arising information which is not included in the question prompts in the questionnaire. The

consent form also includes a clause that the participant can withdraw from the study without any fear should they feel uncomfortable to continue for any reason.

14. What happens when the research study stops?

This is a research project for academic purposes. Therefore, in the event the study is stopped before it is concluded, all participants will be informed about the reason for discontinuing the research. Moreover, the research team apologizes for any inconvenience caused on the participating patients.

15. What if something goes wrong?

This study only requires the participants to respond to the questions in the questionnaire. The study is guided by ethical conduct guidelines from the authorizing academic committee and the medical facility management. Should there be a conflict of interest, the participant can withdraw and report the arising matter to the hospital leadership for effective follow-up. As a voluntary basis research, there is no compensation guaranteed for participants.

16. Will my taking part in this study be kept confidential?

The participants will be given a consent form to sign. The study relies on voluntary and willing participants. The information given in this study and all information collected is confidential and will only be used for the academic purposes. It will not be used in any other way. The anonymity of the patient is also guaranteed.

17. What will happen to the results of the research study?

The information gathered from the research will be used for academic purposes. The data will be analyzed for a final report which can be used to give recommendation to care providers and decision makers to improve the quality of health outcomes in future.

18. Who is organising and funding the research?

This study is organized and funded by Mariam Ibrahim Al Blooshi, a student at Al Ain University of science and technology. It is an academic requirement and therefore, there is no outside sources of financing. No participant will be paid as the study is not for profit making purpose.

19. Who has reviewed the study?

The study will be reviewed by the Research Ethics Committee at Al Ain University of Science and Technology. It also will be approved by the hospital management of Al Ain Hospital.

20. Contact for Further Information

For further information, please contact the Al Ain University of Science and Technology at the university website, or through email or he contact information below.

١. <u>عنوان الدراسة</u>

التخثر هو تجلط الدم، حيث يتغير الدم في الجسم من السائل إلى شكل جل مما يسبب جلطة. يمكن أن تكون هذه الجلطات قاتلة عندما يتم غلق الأوعية الدموية عن طريق هذه الجلطات الدموية. ويستخدم العلاج لمنع تجلط الدم للحد من فرص حدوث السكتات الدماغية والنوبات القلبية من تجلط الدم. يشرح العنوان العوامل التي تؤثر على الالتزام بأدوية مضادات تجلط الدم بين المرضى.

٢. <u>فقرة دعوة:</u>

أنت مدعو للمشاركة في هذه الدراسة. هذه ورقة بحث أكاديمية والأسئلة مرتبطة فقط بالموضوع. في حال وجود أي مشكلة بحيث لا تستطيع فهم أي سؤال فمن فضلك اسال. يرجى قضاء بعض الوقت في قراءة الأسئلة والنظر فيها قبل بدء الاستبيان. شكرا.

٣. <u>ما هو الغرض من الدراسة؟</u>

تسعى هذه الدراسة إلى إثبات المشكلات التي تنشأ بين المرضى الذين يتناولون أدوية مضادة للجلطة الدموية. سيساعد المشروع البحثي على تحديد العوامل التي تؤثر على الالتزام بمضادات تجلط الدم للمرضى. النتائج مهمة لتحسين نتائج المرضى الذين يتناولون أدوية تجلط الدم. تستغرق الأسئلة حوالي ١٥ دقيقة للإجابة.

٤. <u>لماذا تم اختياري؟</u>

ستتألف الدراسة من مجموعات من المرضى الذين تم وضعهم على دواء منع تجلط الدم. لقد تم اختيارك كشارك لأن لديك تجربة مباشرة في العلاج المضاد لتجلط الدم. تعتقد الدراسة أنك كشارك   سوف تساعد في إعطاء معلومات دقيقة وموثوقة لنتائج دقيقة. يتم اختيار المشاركين بشكل عشوائي وبالتالي، لا يوجد تفضيل أو تمييز.

٥. <u>هل يجب على المشاركة؟</u>

هذه دراسة بحثية أكاديمية ويتم الترحيب بجميع المشاركين المختارين ويطلب منهم التعاون. ومع ذلك، من المهم الإشارة إلى أن المشاركة تطوعية ولن يتم استخدام أي إكراه على المتطوعين. المعلومات الواردة في هذه الدراسة سرية للغاية. سيكون هناك نموذج موافقة للمشاركين المستعدين. مشاركتك عن طيب خاطر تحظى بتقدير كبير.

٦. <u>ماذا سيحدث لي إذا شاركت؟</u>

وتستند الدراسة بالكامل على نتائج الاستبيانات التي يتم اجراءها. يتم جمع المعلومات فقط من خلال الإجابة على الأسئلة الواردة في الاستبيان. لن يكون هناك أي مراقبة أو إعطاء أي دواء آخر للتأثير على عملية العلاج الخاصة بك. تعتمد هذه الدراسة فقط على تجاربك أثناء تناول الدواء المضاد لتجلط الدم لتحديد عوامل الخطر والنتائج الصحية.

٧. ماذا على ان افعل؟

هذه الدراسة لا تتطلب من المشاركين تغيير نمط حياتهم أو عملية الدواء. تتطلب الدراسة فقط المشاركين المختارين لمواصلة رويتنهم في العلاج كالمعتاد. المشاركة الوحيدة هي الرد على الأسئلة بأمانة قدر الإمكان. لا تؤثر الدراسة بأي شكل من الأشكال على الحياة الشخصية للمشارك.

٨. ما هو الدواء أو الإجراء الذي يتم اختباره؟

تسعى الدراسة إلى تحديد آثار استخدام الأدوية المضادة لتجلط الدم على المرضى. ستحدد هذه الدراسة معتقدات وخبرات المرضى بشأن هذا الدواء والتي تؤثر على قدرتهم على الالتزام بالأدوية المضادة لتجلط الدم كما يتم اجراءها. يجب على المرضى الحفاظ على رويتنهم اليومي في تناول الدواء.

٩. ما هي بدائل التشخيص أو العلاج؟

الدراسة هي دراسة تعرض وهي تسعى إلى ربط عوامل الخطر المرتبطة باستخدام الأدوية المضادة لتجلط الدم والمعتقدات والنتائج الصحية للمرضى الذين تم وضعهم على هذا الدواء. لا تسعى الدراسة إلى إنشاء علاج بديل، ولكنها تسعى فقط إلى الكشف عن العوامل المتعلقة بالالتزام بعلاج تجلط الدم.

١٠. ما هي الآثار الجانبية لأي علاج يتم تناوله عند المشاركة؟

لن تقدم الدراسة أي دواء للمرضى الذين سيشاركون في هذه الدراسة. يتم اختيار المرضى المشاركين من المرضى بالفعل الذين يناولون الأدوية المضادة لتجلط الدم. الهدف هو جمع معلومات حول تجاربهم مع العلاج المضاد لتجلط الدم.

١١. ما هي العيوب والمخاطر المحتملة للمشاركة؟

أكدت الدراسة أن المعلومات التي تم جمعها ستكون سرية. هوية المرضى المشاركين سيتم اخفائها وبالتالي، فإنه لن يتمكن أي شخص من الوصول إلى أي معلومات والتي يمكن استخدامها لتمييز أي من المرضى. بالإضافة إلى ذلك، لا توجد أدوية جديدة يتم تناولها، وبالتالي، ليس هناك أي خطر أو عيب من المشاركة في الاختبار.

١٢. ما هي الفوائد الممكنة من المشاركة؟

ميزة المشاركة في الدراسة هي أنك ستكون جزءًا من الفريق الذي سيؤدي إلى تغيير في رعاية المرضى الذين يعانون من حالات صحية تتعلق بتجلط الدم. من خلال النتائج التي توصلت إليها هذه الدراسة، تم تقديم توصية حول أفضل السبل لمعالجة المشاكل المحيطة بالتزام المرضى بالأدوية المضادة لتجلط الدم، وبالتالي تحسين النتائج الصحية للمرضى.

١٣. ماذا لو أصبحت معلومات جديدة متاحة؟

خلال البحث قد تكون هناك حاجة لإدخال جوانب أخرى للدراسة. يتضمن هذا أي معلومات ربما تظهر وتكون غير مدرجة ضمن الأسئلة الموجودة في الاستبيان. يتضمن نموذج الموافقة أيضًا بندًا يمكن للمشارك الانسحاب من الدراسة دون أي خوف إذا شعر بعدم الارتياح للاستمرار لأي سبب.

١٤. ماذا يحدث عندما تتوقف الدراسة البحثية؟

هذا هو مشروع بحثي للأغراض الأكاديمية. لذلك، في حالة توقف الدراسة قبل انتهائها، سيتم إعلام جميع المشاركين بالسبب وراء توقف البحث. علاوة على ذلك، يعتذر فريق البحث عن أي إزعاج قد يسببه المرضى المشاركون.

١٥. ماذا لو حدث خطأً ما؟

تتطلب هذه الدراسة فقط من المشاركين الإجابة على الأسئلة الواردة في الاستبيان. تسترشد الدراسة بإرشادات السلوك الأخلاقي الصادرة عن اللجنة الأكاديمية المخولة وإدارة المنشأة الطبية. إذا كان هناك تضارب في المصالح، فيمكن للمشارك الانسحاب والإبلاغ عن المشكلة التي ظهرت إلى قيادة المستشفى للمتابعة الفعالة. كبحث طوعي، لا يوجد تعويض مضمون للمشاركين.

١٦. هل تبقى مشاركتي في هذه الدراسة سرية؟

سيتم منح المشاركين نموذج موافقة للتوقيع. تعتمد الدراسة على المشاركين المتطوعين والمستعدين. المعلومات الواردة في هذه الدراسة وجميع المعلومات التي تم جمعها هي معلومات سرية وسيتم استخدامها فقط للأغراض الأكاديمية. لن يتم استخدامها بأي طريقة أخرى. يتم ضمان عدم الكشف عن هوية المريض.

١٧. ماذا سيحدث لنتائج الدراسة البحثية؟

سيتم استخدام المعلومات التي تم جمعها من البحث للأغراض الأكاديمية. سيتم تحليل البيانات للحصول على تقرير نهائي والذي يمكن استخدامه لتقديم توصية لمقدمي الرعاية وصناع القرار لتحسين جودة النتائج الصحية في المستقبل.

١٨. من يقوم بتنظيم وتمويل البحث؟

تنظم هذه الدراسة وتمولها مريم إبراهيم البلوشي، طالبة في جامعة العين للعلوم والتكنولوجيا. إنه مطلب أكاديمي، وبالتالي، لا توجد مصادر خارجية للتمويل. لن يتم الدفع لأي مشارك لأن الدراسة ليست لغرض تحقيق الربح.

١٩. من قيم (راجع) هذه الدراسة؟

ستتم مراجعة الدراسة من قبل لجنة أخلاقيات البحث بجامعة العين للعلوم والتكنولوجيا. كما سيتم اعتماده من قبل إدارة مستشفى العين.

٢٠. الاتصال للحصول على مزيد من المعلومات

لمزيد من المعلومات، يرجى الاتصال بجامعة العين للعلوم والتكنولوجيا على الموقع الإلكتروني للجامعة، أو عبر البريد الإلكتروني أو معلومات الاتصال أدناه.