

# Patient Compliance with Oral Anticoagulant Therapy <sup>†</sup>

Sérgio Valério <sup>1,2,\*</sup> and Maria João Hilário <sup>1,2</sup> <sup>1</sup> Higher Education School Egas Moniz, 2829-511 Almada, Portugal; mjhilario1973@gmail.com<sup>2</sup> Lisbon North University Hospital Center, 1649-028 Lisboa, Portugal

\* Correspondence: sfcvalerio@gmail.com

<sup>†</sup> Presented at the 5th International Congress of CiiEM—Reducing Inequalities in Health and Society, Online, 16–18 June 2021.

**Abstract:** Oral anticoagulants (OAC) are intended to enhance the unwanted activation of blood clotting, and they are used for the prophylaxis and treatment of thromboembolic events. This study aimed to describe and verify whether there was a relationship between patient compliance with OAC therapy and patient gender and age, using a sample of 111 individuals. The data were collected through individual forms, from patients in a Hospital Unit in Great Lisbon. Results showed a statistically significant relationship between patient compliance with OAC therapy and the variables gender and age.

**Keywords:** oral anticoagulants; compliance; hypocoagulated

## 1. Introduction

Oral anticoagulants (OACs), as anti-vitamin K drugs, are characterized by preventing the carboxylation of coagulation factors II, VII, IX, and X, leading to the synthesis of inactive factors [1]. They are used in diseases that potentiate an unwanted activation of blood coagulation, used for the prophylaxis and treatment of thromboembolic events [1].

Therapy with OACs consists of the oral administration of the drug. Its dosage varies according to the assessment of the clinician and laboratory analyses (international normalized ratio—INR) [2].

Indications for OAC include the prevention and treatment of venous thromboembolism, pulmonary thromboembolism, acute myocardial infarction, valve prostheses, and atrial fibrillation, among others [3].

Anticoagulation stability is related to patient compliance, as well as several other factors, such as age, diet, use of other drugs, comorbidities, genetic polymorphisms, and vitamin K intake [3].

Compliance with OAC treatment is defined as the patient's state of agreement through the recommendations given by the clinician regarding this treatment, respecting the hours, dosage, frequency, and duration of prescription drugs [4].

There are countless factors that lead to patients not complying with this treatment such as numerous trips to the hospital, as well as the waiting time for consultation, their pathology, drug interactions, and personal beliefs. Thus, therapeutic doses are sometimes altered or interrupted by the patient [4].

The specific objective of this research topic was to describe and verify whether there is a relationship between patient compliance with OAC and patient gender and age. The gender and age group with the greatest adherence to OAC therapy was verified.

## 2. Materials and Methods

In this study, a descriptive–correlational, cross-sectional methodology was followed. A convenience sample was created with 111 participants. The data were collected from a questionnaire (validated through a pretest) completed by users of a hospital in Greater



**Citation:** Valério, S.; Hilário, M.J. Patient Compliance with Oral Anticoagulant Therapy. *Med. Sci. Forum* **2021**, *5*, 33. <https://doi.org/10.3390/msf2021005033>

Published: 22 July 2021

**Publisher's Note:** MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Copyright:** © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Lisbon. In this study, a 90% confidence interval, an error of 10%, and a significance level of 0.1 were used. The responses were collected from users who attended a hypocoagulation consultation between 20 January 2020 and 20 February 2020.

In order to measure the adherence/compliance, an indirect method was used on the basis of responses to seven questions that investigated different situations potentially leading to nonadherence to therapy (failure to take OAC, failure to take OAC at the correct time, interruption of OAC due to improving symptoms, interruption of OAC due to worsening symptoms, compensation for missed OAC the previous day, interruption of therapy due to a lack of medication, and interruption of therapy according to the patient's initiative).

Patients provided their consent using a specific form, and the study was approved by the ethics committee of the hospital in question.

### 3. Results and Discussion

Of the 111 participants, 62.14% were female and 37.84% were male, with an age range of 19 to 87 years old. Great compliance was found with OAC therapy (98.20%), whereby only two male cases did not comply with correct therapy. It has been reported that the age group with the highest compliance was 71–80 years.

Regarding the specific questions in the questionnaire related to treatment adherence/compliance, the most answered option was “never”. Specifically, 59.5% of patients had never failed to take OAC, 88.3% had never missed the exact hour, 96.4% had never interrupted OAC due to improving symptoms, 92.8% had never interrupted OAC due to worsening symptoms, 93.7% had never overcompensated following a missed previous dosage, 92.8 had never interrupted OAC due to a lack of medication, and 92.8% had never interrupted OAC according to their own initiative.

We found a significant and positive correlation between the variables “gender” and “compliance with OAC therapy”, with  $p(0.068) < \alpha(0.1)$ , whereas there was a significant negative correlation between the variables “age by class” and “adherence to OAC therapy”, with  $p(0.091) < \alpha(0.1)$ .

**Institutional Review Board Statement:** Ethical review and approval were waived for this study, due to high interest of scientific committee that asked the authors to conduct this specific study.

### References

1. Silva, M.; Sousa, E.; Marques, F. Estado da arte na terapêutica anticoagulante: Novas abordagens. *Acta Farm. Port* **2013**, *2*, 5–18.
2. Barreira, R.; Ribeiro, F.; Martins, M. Monitorização da terapêutica com anticoagulantes orais: Consulta de anticoagulação vs. médico assistente. *Acta Med. Port* **2004**, *17*, 416–417.
3. Guimarães, J.; Zago, A. Anticoagulação Ambulatorial. *Rev. HCPA* **2007**, *27*, 30–38.
4. Ávila, C.; Aliti, B.; Feijó, M. Adesão farmacológica ao anticoagulante oral e os fatores que influenciam na estabilidade do índice de normatização internacional. *Rev. Lat. Am. Enf.* **2011**, *19*, 18–25. [[CrossRef](#)]