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Journal of Neurology & Stroke

Case Report

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The performance of a multidisciplinary team in a hospital and outpatient stroke unit in SUS

Abstract

Stroke affects millions of people worldwide each year. There are some types of stroke like ischemic stroke, when stroke patients need secondary prevention of new events. One of the options of a secondary prevention is through the use of oral anticoagulants such as dabigatran, rivaroxaban (direct oral anticoagulants - DOACS) and warfarin; however, the home use of such drugs is a matter of concern due to the risks of Adverse Drug Reaction (ADR) related to poor adherence to drug treatment, in addition to the difficulty of access to the drug by the population.

Objective: To provide access to medication, monitor possible ADRs, and also to reduce patient dropout, and increase patient compliance.

Methods: The Neurologist fills out the DOACS documents to be picked up at the State Citizen Pharmacy or prescribes warfarin. While still hospitalized, the patient receives pharmaceutical orientation, dispensation of the DOACS for 30 days of use and the date of the next laboratory test, requested every 6 months, or monthly for warfarin. The evaluation of the results and the orientation is done by the Neurologist. Faced with possible questions that arose, patient evasion reached 60% in one year. The Clinical Pharmacy team was inserted in the outpatient clinic, with the following flow: the patient does TAP/INR or creatinine and the result is evaluated by Neurology. Prescriptions and medical reports are forwarded to the Clinical Pharmacy, which delivers to the patients in the pharmaceutical consultation; at this moment, adherence to drug treatment and ADR monitoring are evaluated.

Results: From March/2019 to August/2020, 1,892 consultations were scheduled, being 946 pharmaceutical consultations, with 805 face-to-face visits (85% adherence). Regarding the users' profile: 8 rivaroxaban (4%), 58 warfarin (26%) and 156 dabigatran (70%).

Conclusion: Multiprofessional outpatient care with clinical pharmacy consultation contributed to reduce patient dropout, provided access to medication, monitored ADRs, ensuring patient safety when using oral anticoagulants in SUS.

Keywords: neurology, stroke, clinical pharmacy, oral anticoagulants, adherence, adr, multidisciplinary team, SUS

Volume 12 Issue 6 - 2022

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Received: December 1, 2022 | **Published:** December 15, 2022

Introduction

Cerebrovascular accident (CVA) affects 17 million people around the world every year, 6 million of them die and 5 million are left with permanent sequels.[1] It can be classified into hemorrhagic stroke, cerebral venous thrombosis, transient ischemic attack and ischemic stroke (CVAi). Ischemic stroke is characterized by the obstruction of the blood flow in a cerebral vessel, so that the neuronal cells are deprived of nutrients and oxygen. CVAi accounts for about 87% of all types of stroke and affected patients need secondary prevention of new events.[2] Therefore, a multidisciplinary health team is necessary to meet the particularities of the patient intending to promote, protect and rehabilitate him/her. One of the options of secondary prevention is drug therapy through the use of oral anticoagulants as dabigatran, rivaroxaban (direct oral anticoagulants - DOACS) and warfarin, started during the hospitalization period and postponed after discharge.[3–5] The home use of oral anticoagulants is a matter of concern because of various possibilities of Adverse Drug Reaction (ADR) such as risk of bleeding or a new stroke caused by poor adherence to drug treatment, not to mention the difficulty of access of the population to the drug.[6–9] In this context, Clinical Pharmacy is an area of pharmaceutical sciences focused on science and clinical practice related to the rational use of medicines, in which pharmacists perform patient care, aiming to optimize pharmacotherapy, to promote health, well-being and to prevent health problems.[10,11] Hence, providing access to medication, monitoring possible ADRs, increasing adherence to drug treatment, and reducing outpatient dropout are necessary and extremely important actions to ensure patient safety in the rational use of medication, as well as in the prophylaxis of a new CVAi event and in reducing the burden on the public health system.

The Central State Hospital, which a public hospital of high complexity, is located in Vitória, the capital of Espírito Santo state, and is a reference in stroke neurology care. As the number of patients with ischemic stroke increased, they required prophylactic drug therapy with oral anticoagulants, in addition to medical follow-up. Then, the need to perform outpatient pharmacy follow-up for patients receiving oral anticoagulation arose**.** The anticoagulation outpatient clinic of the HEC was started in 2012 to care for patients with ischemic stroke with indication for post-discharge oral anticoagulation. Due to high demand, the Neurology Department did not provide face-to-face care to patients; however, monitoring occurred through periodically required laboratory tests. Thus, the beginning of outpatient follow-up occurred at hospital discharge, i.e., Neurology would fill out the necessary documents for the patient to get DOACS (high cost medications) at the State Citizen Pharmacy, or would prescribe warfarin. While still hospitalized, the patient received pharmaceutical orientation, dispensation of the anticoagulant for 30 days of treatment, and the date of the next outpatient laboratory test, which is requested every 6 months for DOACS, or monthly for warfarin. In both cases, the results were evaluated in a non-face-to-face manner by Neurology.

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Despite this, many patients still had questions even with the face-to-face meetings, which were held in selected cases. because of the high demand and the impossibility of serving everyone, there was patient evasion, which reached 60% in one year. Aiming to offer a complete health service to the patient, the Clinical Pharmacy team was added to the outpatient clinic in March 2019, with the following flow: the patient performs TAP/RNI or creatinine and the result is evaluated by Neurology (Figure 1). Then, administrative processes are made and prescriptions are forwarded to the Clinical Pharmacy that finally delivers to the patients, during the pharmaceutical consultation. In this consultation, adherence to drug treatment, monitoring of possible ADRs, possible drug-related problems as well as an explanation about the pathophysiology of the disease are evaluated (Figure 2). Some atypical cases are evaluated jointly between Clinical Pharmacy and Neurology.

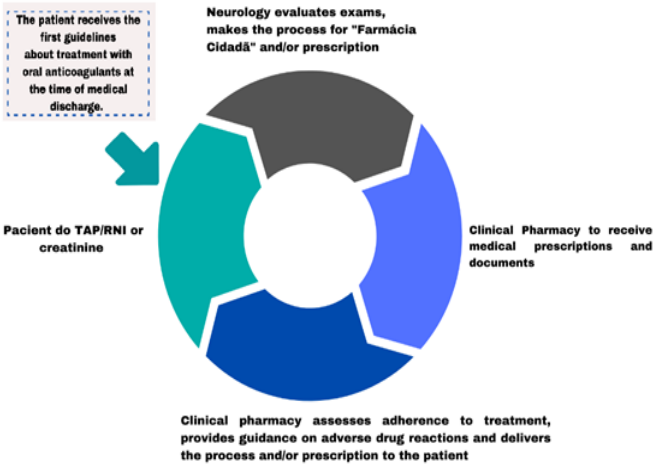

Figure 1 Outpatient follow-up cycle of patients using oral anticoagulants.

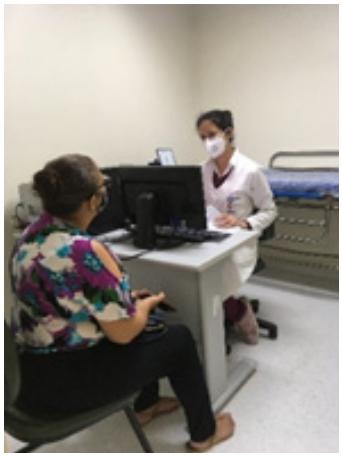

Figure 2 Clinical Pharmacy Outpatient Service.

Results

From March/2019 to August/2020, 1,892 in-person and non-in-person appointments were scheduled. From those, 946 pharmaceutical appointments were scheduled and 805 patients attended the in-person appointments leading to an 85% compliance (Figure 3). Until August 31, 2020, 222 patients were seen, from these ones 181 were active, 7(3.2%) died, and only 19 (8.55%) evaded, 6 were discharged (2.7%), being 5 non-adherent and 1 for closure of PFO (Patent foramen ovale). Regarding the profile of users: 8 were on prophylactic drug treatment with RIVAROXABANA (~4%), 58 with warfarin (~26%) and 156 with DABIGATRANA (~70%) (Figure 4).

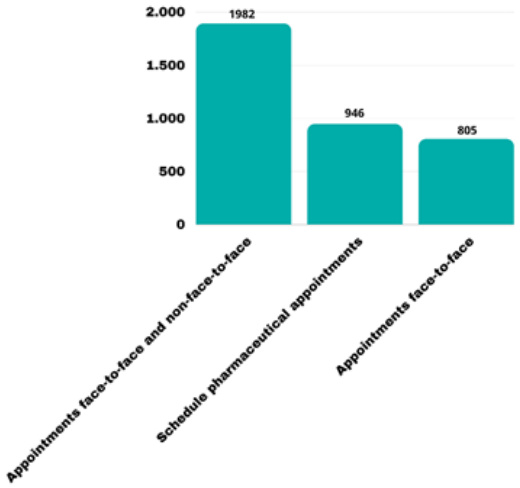

Figure 3 Number of scheduled medical and pharmaceutical appointments and number of face-to-face visits.

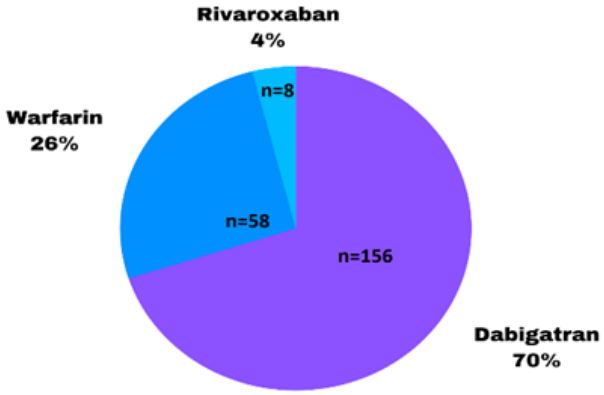

Figure 4 Drug treatment profile of oral anticoagulants

Discussion

Stroke is a disease that can cause permanent damage to the patient's health, and great social and economic impact in the country. The current study reported the experience of a multiprofessional patient care with the multiprofessional outpatient clinic between clinical pharmacy and neurology for patients with oral anticoagulation in a public hospital located in Espírito Santo, Brazil. The multidisciplinary work showed that outpatient pharmaceutical care was an important factor to increase adherence to face-to-face consultations, besides clarifying doubts related to pharmacotherapy and/or pathophysiology of the disease, plus the follow-up of possible ADRs.[12] Hence, the presence and performance of the multidisciplinary team suggests a promising strategy for adherence. Such facts are already evidenced in literature in other pathologies.[11,13] Concerning the pharmacological profile of outpatients, a similar trend is observed in other countries regarding the drug prescription of DOACS as a preventive treatment for stroke and other cardiovascular diseases.[14–17]

Conclusion

Multiprofessional outpatient care with consultation of Clinical Pharmacy contributed to reducing patient dropout; it also allowed access to medication, monitored ADRs through the promotion of health education, being a fundamental tool for adherence to drug treatment, ensuring the safety of patients using oral anticoagulants in SUS.

Citation: Telles VGA, Sfalsini RR, Júnior JAF, et al. The performance of a multidisciplinary team in a hospital and outpatient stroke unit in SUS. *J Neurol Stroke.* 2022;12(6):199–201. DOI: 10.15406/jnsk.2022.12.00528

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Acknowledgments

None.

Conflicts of interest

The authors declare no conflicts of interest.

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