CP-057

PARTIAL ECONOMIC EVALUATION OF PHARMACEUTICAL INTERVENTIONS ON THE PRESCRIPTION OF DIRECT ORAL ANTICOAGULANTS IN A TEACHING HOSPITAL

Declaye C[1], Sennesael AL[1], Larock AS[1], Spinewine A[1], Hecq JD[1] and Krug B[2].
[1]Pharmacy Department, [2]Medical Quality and Safety officer,
CHU UCL Namur, Belgium

charlotte.declaye@gmail.com

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Background

Direct oral anticoagulants (DOAC) are widely used in patients with atrial fibrillation. However, inappropriate use is prevalent and this potentially increases the risk of thromboembolic and hemorrhagic events. These events also imply an important economic burden. In our institution, a clinical pharmacist is dedicated to performing medication review for all DOAC patients.

Purpose

To determine the net cost avoidance of pharmaceutical interventions on the DOAC prescription.

Method

We constructed a decision-tree model, using a public payer perspective. We included hospitalized medical patients taking a DOAC during two 6-month periods in 2013 and 2014.The appropriateness of the prescription was assessed using nine items of the Medication Appropriatenes Index [1]. The theoretical thromboembolic and hemorrhagic risks of patients under DOAC were collected from the literature. The evaluation of the individual potential risks is based on the Nesbit risk assignment conducted by two independent clinical pharmacists [2]. Based on diagnosis-related group coding and literature data, different costs were included: institutional diseases costs of complications, annualized ambulatory stroke costs, drugs costs and pharmacist's costs. In the reference case we did not add consultancy fees for the pharmacist. An univariate sensitivity analysis was performed to evaluate the robustness of our results and key assumptions.

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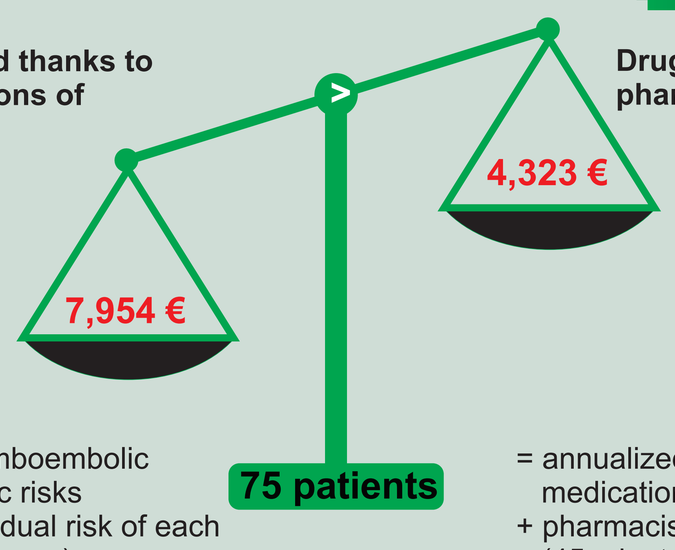
Possible conflict of interest : nothing to disclose.

Methodological approach and main results.



= theoretical thromboembolic and hemorrhagic risks
x potential individual risk of each patient (Nesbit score)
x institutional thromboembolic and hemorrhagic complication costs
+ annualized ambulatory stroke costs

= annualized daily medication cost
+ pharmacist 's costs (45 minutes per patient x cost of pharmacist with 15 years of experience)

Results

75 patients met the inclusion criteria. Thirty-six (48%) had an inappropriate DOAC prescription. The net cost benefit analysis shows that, the saved difference between avoided costs (7 954€) and annualized medication costs and pharmacist cost (4 323€) is 3 631€ for 75 patients. The univariate sensivity analysis enlightened still a net cost benefit if the prevalence of inappropriate prescribing and disease costs decreased to 28% and 45% respectively.

Discussion

Besides the enhancement of the prescription's quality by the clinical pharmacist, our results show evidence that her intervention provides a net positive cost benefit.
A complete economic analysis should be considered to demonstrate the cost-effectiveness of a clinical pharmacist.

[1] Larock A. S., et al., Appropriateness of prescribing dabigatran etexilate and rivaroxaban in patients with nonvalvular atrial fibrillation: a prospective study, Ann Pharmacother, 2014; 48 (10): 1258-1268.
[2] Nesbit, et al., Implementation and pharmacoeconomic analysis of a clinical staff pharmacist practice model, Am J Health-Syst Pharm 2001; 58 (1): 784-790.

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