Medication possession ratio may detect half of the self-declared non-adherent patients to direct oral anticoagulation treatment? A pilot study

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Background Poor adherence to direct oral anticoagulation (DOAC) treatment in practice has been reported. Identifying non-adherent patients is needed to initiate adherence counselling. Because of non-forgiving characteristics, DOACs require strict intake intervals that translate into very high adherence rates. The Polymedication Check (PMC) is a reimbursed intermediate medication review in Switzerland that focuses on adherence and medicines use in outpatients.

Purpose We aimed at assessing whether the affirmative answer to the PMC question “Do you sometimes forget to take your medication?? coincides with a Medication possession ratio (MPR) <90% (non-adherence) in DOAC treated patients.

Method Fifth-year pharmacy students recorded one PMC with an anticoagulated patient during internship in community pharmacies between November 2014 and March 2015. Patient’s refills of the past 12 months were used to calculate a MPR for DOAC if at least two refills were available. Assumptions for the calculation of the MPR were made according to Arnet 2016.

Findings The 69 PMCs concerned DOACs for 30 (43.5%) patients (52% women, 73.0 ± 12.2 years old, 9.9 ± 4.9 medications). The most often prescribed DOAC was rivaroxaban (93.3%), apixaban and dabigatran were marginally prescribed (3.3% each). Five PMC were excluded (poor documentation, n=2; less than two refills, n=3). Refills (mean of 2.9±0.8 per patient) were available for a mean of 128±62 days. MPR ranged from 50.6 - 182.7%. MPR below 90% was observed in 4 patients (16%), out of them two self-reported to sometimes forget to take the DOAC. Other two patients reported non-adherence but showed a MPR > 90%.

Conclusion This pilot study shows that deviant behavior is confirmed by calculation of medication possession ratio for only half of the admitters of non-adherence, probably due to the masking of a recent behavior into an averaging calculation method. We question the appropriateness of calculation methods from refills (such as the MPR) as single trigger to adherence counselling. MPR does insufficiently mirror recent non-adherence or disclosed forgetfulness.