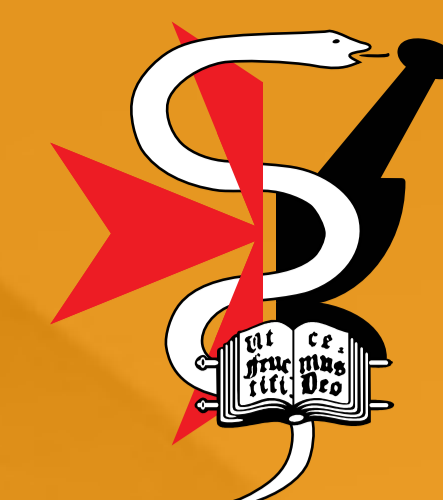


OPTIMISING DRUG THERAPY IN OLDER PERSONS: DESIGN AND IMPLEMENTATION OF A MEDICATION ASSESSMENT TOOL FOR SECONDARY PREVENTION OF STROKE

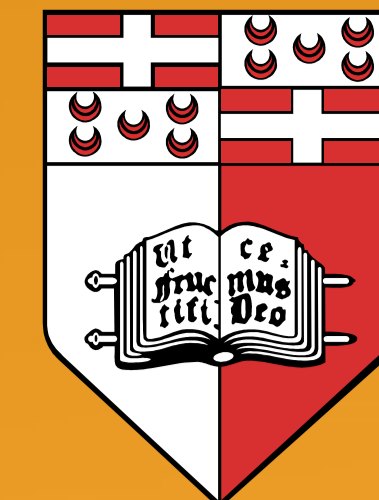
Marise Gauci, Francesca Wirth, Lilian M. Azzopardi, Anthony Serracino-Inglott

Department of Pharmacy, Faculty of Medicine and Surgery, University of Malta, Msida, Malta

marise.gauci@um.edu.mt



Department of Pharmacy



University of Malta

DI-059

INTRODUCTION

Several characteristics of ageing make selection of appropriate drug therapy a challenging task. Optimisation of drug therapy in older persons may be facilitated by application of medication assessment tools.

OBJECTIVES

To design, psychometrically evaluate and implement a medication assessment tool for secondary prevention of stroke (MAT-CVA) with particular relevance to older persons to assess adherence to clinical practice guidelines.

METHODS

- Development of MAT-CVA involved selection of key criteria from clinical practice guidelines for secondary prevention of stroke, which were presented as a 'qualifying statement' followed by a 'standard'. An application guide was compiled where justifications for non-adherence were specified.
- Content validity was tested using a two-round Delphi process among an expert group consisting of nine reviewers. The application guide was reviewed based on recommendations by the expert group in both rounds. Inter- and intra-observer reliability testing was conducted with agreement expressed by Cohen's kappa (κ) and application time measured to assess feasibility.
- The designed MAT-CVA was applied to 150 patients with a history of stroke/transient ischaemic attack admitted to Rehabilitation Hospital Karin Grech, a geriatric and rehabilitation hospital.

RESULTS

- The developed MAT-CVA consists of 17 criteria (Figure 1).
- Content validity was demonstrated for all criteria (consensus threshold 75%).
- Reliability was confirmed with κ -values of 0.80 for both inter- and intra-observer agreements. Mean application times were 5.55 (SD 1.96) and 6.56 minutes (SD 1.74) with significant correlation for both inter-observer ($r=0.6$, $p=0.001$) and intra-observer tests ($r=0.8$, $p<0.001$ and $r=0.4$, $p=0.032$).
- 60.7% of the study population were female and mean age was 79.5 years (SD 8.2). 1363 criteria (53.5%) out of a total of 2550 were applicable. Adherence to applicable criteria was 55% and justified non-adherence was 22.3%. Non-adherence was predominantly evident for prescription of anticoagulation in atrial fibrillation (36.4%), thiazide diuretics +/- ACE inhibitors for hypertension (26.8%) and dipyridamole at recommended dose (24.0%). Monitoring of HbA1c was deficient in 57.1% of patients.

Figure 1: The developed MAT-CVA

MAT-CVA					
Medication assessment tool for secondary prevention of ischaemic CVA in patients ≥ 60 years					
Qualifying statement (q)	Standard (s)	Patient assessment			
Patient with ischaemic CVA/TIA...	Patient name: ID number:	Date:			
Antithrombotic therapy					
		NA	Y	N/Nj	ID q/s
1 ...	is prescribed aspirin 75mg daily or clopidogrel 75mg daily		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 ...w ho is prescribed aspirin	is prescribed dipyridamole mr 200mg tw ice daily or equivalent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 ...w ho is not prescribed aspirin or clopidogrel due to contraindication/intolerance	is prescribed dipyridamole mr 200mg tw ice daily or equivalent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 ...w ho has atrial fibrillation	is prescribed warfarin (INR 2.0-3.0) or other oral anticoagulant instead of antiplatelet agents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lipid lowering therapy					
5 ...	is prescribed a statin		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 ...w ho is prescribed a statin	is prescribed simvastatin 20-40mg daily or alternative moderate-intensity statin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 ...w ho is prescribed a moderate-intensity statin and LDL >2mmol/L	is prescribed a high-intensity statin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8 ...w ho is prescribed a statin and eGFR <30 ml/min/1.73m ²	is prescribed fluvastatin or atorvastatin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9 ...w ho is managed with a statin	has monitoring of liver function within 3 months of initiation or up-titration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10 ...w ho is managed with a statin	has monitoring of liver function 12 months after initiation or up-titration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Antihypertensive therapy					
11 ...	has systolic blood pressure of <140mmHg and diastolic blood pressure <90mmHg		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12 ...w ho requires antihypertensive therapy	is prescribed a thiazide diuretic alone or in combination with an ACE inhibitor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13 ...w ho is managed with a thiazide diuretic	has monitoring of serum electrolytes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14 ...w ho is managed with an ACE inhibitor	has monitoring of renal function and serum potassium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Glycaemic therapy					
15 ...	has HbA _{1c} of <7.5%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16 ...w ho requires glycaemic therapy	has HbA _{1c} between 7.0-7.5%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17 ...w ho requires glycaemic therapy	has pre-meal blood glucose levels between 6.0-8.0mmol/L	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CVA cerebrovascular accident, TIA transient ischaemic attack
 NA not applicable, Y yes, N no, Nj justified no, IDq insufficient data for qualifying statement, IDs insufficient data for standard
 References: NICE 2010, RCP 2012, AHA/ASA 2014

CONCLUSION

Content validity, reliability and feasibility of MAT-CVA have been demonstrated. Application of MAT-CVA criteria indicated good overall adherence and highlighted specific gaps in clinical performance which may be targeted to enhance optimisation of drug therapy.

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