SPECIFICITY OF THE EU(7)-PIM LIST AND OTHER EXPLICIT CRITERIA ON POTENTIALLY INAPPROPRIATE MEDICATIONS FOR THE EVALUATION OF RATIONALITY OF DRUG PRESCRIBING IN OLDER ADULTS

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1. BACKGROUND and OBJECTIVES

Explicit criteria of potentially inappropriate prescribing in older adults have been published in different countries to improve the quality and safety of geriatric pharmacotherapy. Prescribing of potentially inappropriate medications (PIMs) is still high in population of older adults and varies across different care settings from 49.0 % in institutional care to 22.6 % in community-residing older adults[1,2].

The aim of our study was to determine applicability of EU(7)-PIM list and other explicit criteria of PIMs independent on diagnoses and clinical conditions for prospective multicentric research of the EUROAGEISM Horizon 2020 project (2017-2021)[3].

2. METHODS

EU(7)-PIM list and other criteria evaluating PIMs independent on diagnoses and disease condition have been summarized from the scientific literature published by autumn 2016 and comprehensive list of 345 PIMs was created.

Approvals for clinical use and availability of these PIMs on pharmaceutical markets (including only drug forms for systemic use and also combined drugs) had been studied in 10 European countries participating in the EU COST Action IS1402 project (2015-2018, by working group WG1b). Namely research teams from the Czech Republic, Slovakia, Poland, Estonia, Hungary, Croatia, Serbia, Turkey, Portugal and Spain participated in this study.

Primary data were collected by research teams in cooperation with local regulatory authorities in the period from December 2016 to April 2017 and re-checked in autumn 2018. Descriptive analyses using SPSS software ver. 20 had been applied to express specificity of EU(7)-PIM list and approval rates of different PIMs in different countries.

3.RESULTS

There were significant differences in approval rates of PIMs and their different drug forms in participating countries. 200 PIMs (58,0 %) from the whole summary list (N= 345 PIMs) were approved for clinical use in Spain, 194 (56,2 %) in Portugal, 183 (53,0 %) in Turkey, 176 (51,0 %) in Poland, 160 (46,4 %) in Hungary, 151 (43,8 %) in Slovakia, 145 PIMs (42,0 %) in the Czech Republic, 135 (39,1 %) in Estonia, 126 (36,5 %) in Croatia, and 111 (32,2 %) in Serbia *(see Graph 1*). The majority of approved PIMS were from ATC group "N"-nervous system *(see Graph 2).* 45 of PIMs from summary list were approved only in 1 of participating countries (see Table 1).

Graph 1: Approval rates of PIMs from the whole summary list of PIMs in participating countries

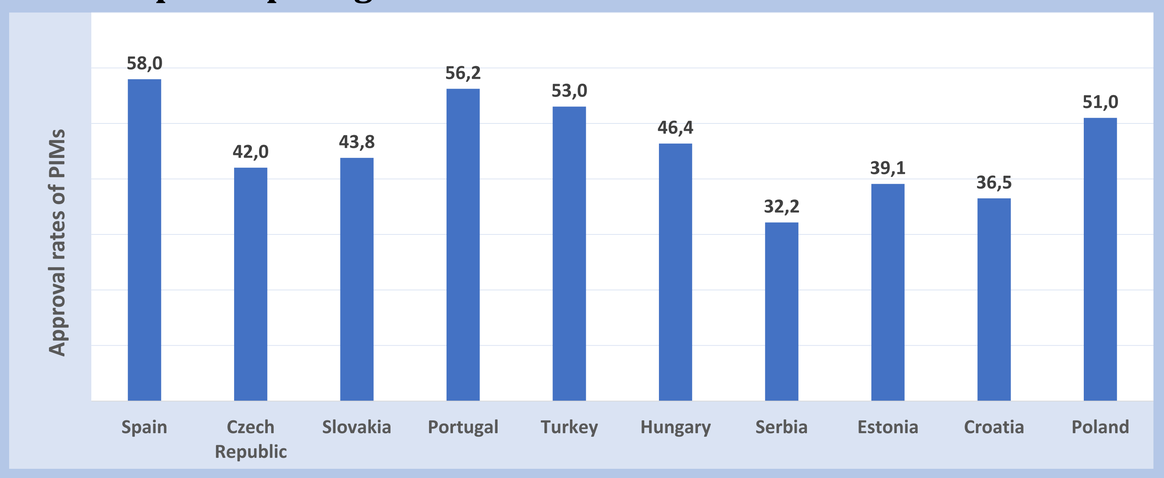

Table 1: Examples of PIMs approved only in 1 of 10 countries

PIM	ATC code	Country	Brand name	Dose	Drug forms	Rx/ OTC	Prescribing limits
alimemazine	R06AD01	Spain	Variargil	40 mg/ml	p.o. gtt	Rx	0
bornaprine	N04AA11	Turkey	Sermodren	50 mg	p.o. gtt	Rx	0
cyamemazine	N05AA06	Portugal	Tercian	5 mg	tbl	Rx	neurologist
doxepin	N06AA12	Spain	Sinequan	8 mg	tbl	OTC	0
estazolam	N05CD04	Portugal	Kainever	5, 20 mg	tbl	Rx	0

4. CONCLUSIONS

Use of individual explicit criteria of PIMs insufficiently detect all PIMs available on pharmaceutical markets in EU countries. Even if the EU7-PIM list present nowadays the most specific tool available for clinical research in Europe, it does not cover many PIMs and combined drug forms now available on European pharmaceutical markets. The summary list of all PIMs will be used in multicentric EUROAGEISM H2020 project in 13 countries. This project is aimed to describe the quality and risks of PIM use in older patients in different settings of care.

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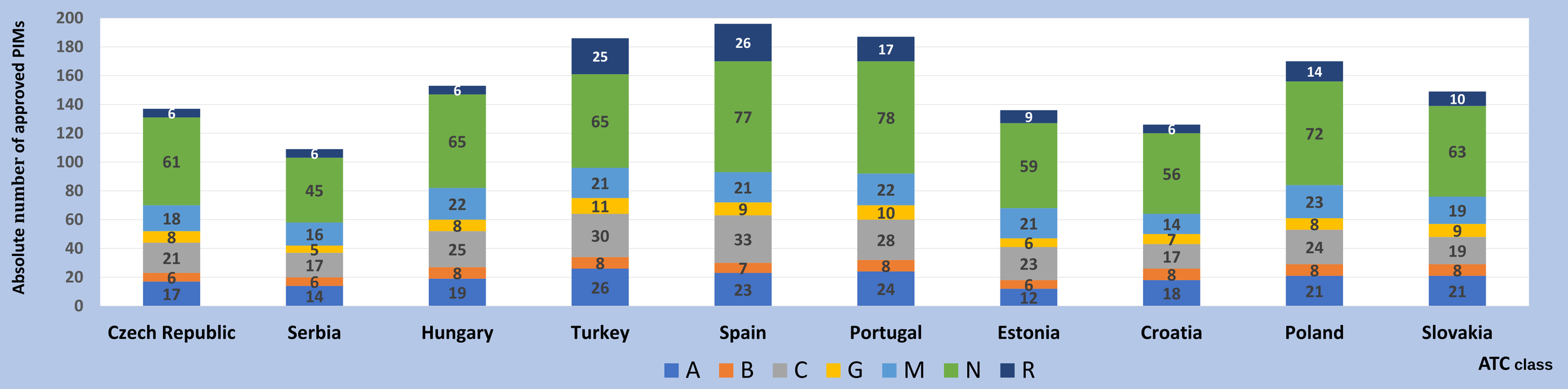
Graph 2: Absolute number of approved PIMs (active substances) in countries participating in the EU COST Action IS1402 study (by ATC groups)



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