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RESEARCH

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Medicamentos impróprios para o idoso disponibilizados pelo estado do Rio de Janeiro segundo os critérios de Beers-Fick

Inappropriate medications for the elderly provided by the Rio de Janeiro state, Brazil according to the criteria of Beers-Fick

Medicamentos inadecuados para el anciano proporcionados por el estado de Río de Janeiro, Brasil según los criterios de Beers-Fick

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ABSTRACT

Objective: To check the prevalence of Potentially Inappropriate Medications (MPI) for the elderly among the available ones in primary health care by the State Secretariat of Health of the state of Rio de Janeiro, Brazil.

Method: This is a study with secondary data from the State Directory of Medicines (rem) and it is analyzed in the light of the guidelines provided for in respect of according to the Beers-Fick of 2012. **Results:** It was found that in REM-RJ, out of a total of 124 medicines, 13.70% (n = 17) are considered MPIs to elderly, with consumption in 2 broad categories (that act in the CNS and peripheral = 35.29%; and operating in cardiovascular and renal system = 29.41%). **Conclusion:** This research highlights the need to develop criteria aligned with the perspective of the Brazilian elderly and the adaptation of the Beers-Fick criteria, and the elaboration of specific overviews, you behold reflecting its this population and its peculiarities, considering references scientific significance.

Descriptors: Inappropriate Prescribing; Drug Prescriptions; Elderly Aged.

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RESUMO

Objetivo: Verificar a prevalência de Medicamentos Potencialmente Inapropriados (MPI) para idosos entre os disponibilizados na atenção primária à saúde pela Secretaria de Estado da Saúde do Estado do Rio de Janeiro. **Método:** Trata-se de estudo realizado com dados secundários provenientes da Relação Estadual de Medicamentos (REM) e analisados à luz das orientações previstas pela Relação de Beers-Fick de 2012. **Resultados:** Verificou-se que na REM-RJ, de um total de 124 medicamentos, 13,70% (n = 17) são considerados MPIs para idosos, com consumo em 2 grandes categorias (que atuam no SNC e periférico = 35,29%; e que atuam no sistema cardiovascular e renal = 29,41%). **Conclusão:** A presente investigação evidencia a necessidade de se desenvolver critérios alinhados à perspectiva do idoso brasileiro, sendo possível a adaptação dos critérios de Beers-Fick, e a elaboração de súmulas específicas que contemplem esta população e suas peculiaridades, considerando referenciais de significância científica.

Descritores: Prescrição Inadequada; Prescrições de Medicamentos; Idosos.

RESUMÉN

Objetivo: Demostrar la prevalencia de medicamentos potencialmente inadecuados (MPI) para ancianos entre los disponibles en la atención primaria de salud de la Secretaría de Estado de Salud del estado de Río de Janeiro, Brasil. **Método:** Este es un estudio desarrollado con datos secundarios de la Relación Estadual de Medicinas (REM) y analizadas a la luz de las listage Beers-Fick de 2012. **Resultados:** Se encontró en la REM-RJ, de un total de 124 medicamentos, 13,70% (n = 17) se considera mpi para ancianos, con un consumo en 2 categorías (que actúan en el snc y periférico = 35,29%; y de funcionamiento en el sistema cardiovascular y renal = 29,41%). **Conclusión:** Este estudio resalta la necesidad de desarrollar criterios alineados con la perspectiva del anciano brasileño y la adaptación de los criterios de Beers-Fick, y la elaboración de descripciones específicas, que lleve en cuenta sus particularidades, considerando referenciales de importancia científica.

Descriptorios: Prescripción Inadecuada, Prescripciones de Medicamentos, Anciano.

INTRODUCTION

Aging is a worldwide phenomenon and occurs due to the increase of the elderly population in relation to the other age groups, related to the progressive fall in the birth rate and the increase of the life expectancy and improvement in the medical assistance. According to the World Health Organization (WHO), the elderly are persons 60 years of age or older residing in developing countries; Already aged 65 or over, in developed countries.¹⁻⁴

Aging is a dynamic and progressive process, with morphological, functional and biochemical changes, which can lead the elderly to use medicines to improve their Quality of Life (QL), in addition, in this age group also, there is a predominance of Chronic Diseases Transmissible (DCNT). In this way, medications are increasingly present in the lives of the elderly due to biological changes and the presence of CNCD, the use of one or more drugs and drug interactions, representing a risk factor for the health condition. Among these, iatrogenesis is highlighted, which can be prevented at

the moment of prescription, using existing instruments that contemplate medicines inappropriate for this age group.⁵⁻⁹

Among these instruments, the Beers Fick criterion, developed in the 1990s, was revised in 1997, 2003 and 2012. In this, the drugs are classified in: (1) drugs to avoid in the elderly, regardless of diseases or conditions of Cheers; (2) drugs considered to be potentially inappropriate when used in the elderly with certain diseases or syndromes, and (3) medicines to be used with caution.¹⁰⁻²

Based on these criteria, the present study aims to verify the prevalence of potentially inappropriate drugs (IPMs) for the elderly among the medicines available in Primary Health Care (PHC) by the State Department of Health of the State of Rio de Janeiro (SES-RJ).

METHOD

This is an observational, cross-sectional, observational study conducted through publicly available secondary data, in order to identify which drugs available in APS by the Government of the State of Rio de Janeiro, available electronically, are inappropriate for the elderly according to the criteria of Beers-Fick.^{11,13}

The variations in the pharmaceutical presentation/concentration were excluded, considering only the common Brazilian denomination, and those classified as phytotherapics. The aim of this analysis was to consider drugs that are not suitable for the elderly, regardless of diseases or clinical conditions, due to the high risk of side effects in this population and with options for prescribing other safer drugs. The medications found are listed as presented in the State Relation of Medicines (REM) (Table 1) and categorized according to the National Relation of Essential Medicines (RENAME 2013) (Table 2).¹⁴⁻⁶

RESULTS AND DISCUSSION

After analysis of the complete REM, composed of 237 products/presentations, and observation of the inclusion/exclusion criteria, 124 drugs remained. Of these, 17 (13.70%) are considered MPIs for use in the elderly according to the Beers-Fick criteria (Table 1).

Table 1 - List of Potentially Inappropriate Medications for the Elderly presented in the State Relation of Medications made available in Primary Health Care by the State Health Secretariat of the State of Rio de Janeiro (accessed June 2014), according to the criteria of Beers-Fick 2012 (n = 17)

- Clonazepam	- Digoxin
- Amiodarone Hydrochloride	- Glibenclamide
- Amitriptyline Hydrochloride	- Haloperidol
- Clomipramine hydrochloride	- Ibuprofen
- Chlorpromazine Hydrochloride	- Dexchlorpheniramine Maleate
- Metoclopramide Hydrochloride	- Methylodopa
- Promethazine Hydrochloride	- Nitrofurantoin
- Propafenone Hydrochloride	- Digoxin
- Diazepam	

Source: State Relation of Medications of the State of Rio de Janeiro, made available in the Primary Attention to Health by the Secretary of State of Health of the State of Rio de Janeiro.

From the 17 MPIs found in REM-RJ analyzed in this study (Table 1), categorized according to RENAME 2013, the highest prevalence is of drugs that act on the central and peripheral nervous system (35.29%), followed by those that work in the cardiovascular system and renal (29.41%). Anti-allergic and anaphylactic agents represent 11.76% and the others represent 23.53%, distributed in the anti-infective categories (n = 1), anti-inflammatory and antigotesos (n = 1), acting on the digestive system (n = 1) and which act on the endocrine and reproductive systems (n = 1) (Table 2). It should be noted that mineral oil is considered MPI by the Beers-Fick criteria only orally. RENAME 2013 presents only as topical use on skin, mucous membranes and fanners.

Table 2 - Categorization of Potentially Inappropriate Medications for the Elderly

GENERAL CLASS	MEDICATION	SUBCLASS
They act in the Central Nervous System (CNS) and peripheral	Diazepam	Anxiolytic; Benzodiazepine derivative
	Clonazepam	Antiepileptic; Benzodiazepine derivative
	Amitriptyline Hydrochloride	Antidepressant; Non-selective monoamine reuptake inhibitor
	Clomipramine hydrochloride	Antidepressant; Non-selective monoamine reuptake inhibitor
	Chlorpromazine Hydrochloride	Antipsychotic; Phenothiazine with dimethylaminopropyl group
	Haloperidol	Antipsychotic; Butyrophenone derivative
They act in the cardiovascular and renal systems	Amiodarone Hydrochloride	Antiarrhythmic Class III
	Propafenone Hydrochloride	Antiarrhythmic Class Ic
	Digoxin	Cardiac glycoside; Digital glycoside
	Spironolactone	Potassium sparing agent; Aldosterone antagonist
	Methylodopa	Central acting antiadrenergic agent; Methylodopa
Antiallergic and anaphylactic	Promethazine Hydrochloride	Antihistamine for systemic use; Phenothiazine derivative
	Dexchlorpheniramine Maleate	Antihistamine for systemic use; Substituted alkylamines
Anti-infective	Nitrofurantoin	Anti-bacterial; Derived from nitrofurans
Anti-inflammatory and anti-gout	Ibuprofen	Non-steroidal and antirheumatic anti-inflammatory; Propionic acid derivative
It acts on the digestive system	Metoclopramide Hydrochloride	Propulsive; propulsive
Acts on the endocrine and reproductive systems	Glibenclamide	Hypoglycemic, excluding insulins; Derived from urea, sulfonamide

Source: State Relation of Medications of the State of Rio de Janeiro, made available in Primary Health Care by the State Department of Health of the State of Rio de Janeiro and National Drug List - RENAME 2013.

Note: made available in Primary Health Care by the Secretary of State Of Health of the State of Rio de Janeiro (accessed June 2014), according to the National Drug List - RENAME 2013.

Despite the risks to health, the present study shows that REM analyzed has MPIs for the elderly, even though there are less harmful therapeutic possibilities. Most of them (64.71%) are in two categories of intimate relation as the elderly (that work in the CNS and peripheral = 35.29%, that act in the cardiovascular and renal system = 29.41%), similar to studies Analogs.¹⁷⁻²¹ Regarding mineral oil, it is not possible to affirm that it is MPI for the elderly, since REM-RJ does not indicate its form of administration. The REM of SES-RJ presents this medicine without distinction of the route of administration, but it presents/displays the classification code Anatomical Therapeutic Chemical (ATC), which classifies the mineral oil as rectal laxative solution, which diverges Of which presents RENAME 2013, in which he is in the class of Emollients and Protectors, subclass Fatty Products and Paraffin.^{11,15,22}

It is possible to perceive the need to use criteria with scientific evidence relevant to the elaboration of overviews with, minimally, a lower percentage of MPIs for the elderly. Although RENAME 2013 was not the subject of this study, it is necessary to mention that it also has MPIs for the elderly. However, although the drug relationship analyzed in this study is from the state of RJ, consideration should be given to the genericity of both RENAME and the State Relations of Essential Medicines (RESMEs) and even the Municipal Relations of Essential Medicines (REMUMEs), which do not Are specific to the elderly population, nor are there any lists of drugs covering other age groups. Thus, these lists present a moderate degree of risk of inadequate prescribing, since they are directly related to the low income population, besides being a reference for prescribing in PHC services, which means that even though there are safer drugs, prescription is linked to REM, at risk of non-compliance with prescription by patients, due to non-purchase of other safer drugs, which are not available free of charge.²³⁻⁵

The question of the use of several drugs by the elderly is also a fact of public health importance, given the presence of several diseases, self-medication, difficulties of drug adherence, among others, it is common the use of several drugs by the elderly, which Requires attention, including drug interaction. One study showed that 92% of those surveyed used several drugs, although at the same time they had several.²⁶ Another study verified the use of medications as a risk factor for falls in an elderly group, an important part of which used polypharmacy, ie using four or more drugs.²⁷

The Beers-Fick criteria proved to be an easy-to-use instrument for the detection of MPIs for the elderly in the REM of RJ, which leads to reflect on the reasons for their non-use as a guideline in the development of government programs for pharmaceutical support. This, as in other studies, highlights the imminent need for more judicious evaluations of the medications dispensed free of charge to the elderly, with a specific role for this population, as well as other populations that present drug specificity.^{16-7,19,28}

Gorzoni, Fabbri and Pires compared the PRISCUS list with Beers-Fick and verified that “both criteria are useful for the prevention of IPM in the elderly, with PRISCUS being more up-to-date and Comprehensive, but are not complete for the Brazilian outpatient reality”. Despite this, the Beers-Fick list is the most cited and used for studies in Brazil, following a worldwide trend.^{10,16-7,21}

CONCLUSION

Despite the various studies on MPIs for the elderly, the REM made available in the APS by SES-RJ presents MPIs for the elderly. The Beers-Fick criteria present an easy application for detection of MPIs for the elderly. It is suggested the development of criteria aligned to the perspective of the Brazilian elderly, as well as the development of similar instruments with attention directed to other age groups, and the elaboration of specific precedents that contemplate these populations and their peculiarities, considering reference points of scientific significance.

The inclusion of lists of specific drugs for the elderly population, such as the PRISCUS list, seems to be a necessary future attitude. However, it is known that several aspects are related and may influence the prescription of inappropriate medication. These factors, such as cost, availability, appeal of the pharmaceutical industries, among others, should be widely discussed within public policies, based on data of scientific significance, with the insertion of representative leaders of the elderly community and public social services and of health.

Given the magnitude and complexity of developing a specific work for the development of a list of MPIs for older people, the increased use of the Beers-Fick list and the inclusion of the PRISCUS list for Brazil can minimize the risks of inadequate prescriptions for Reducing the occurrence of adverse drug events, the use of polypharmacy, and morbidity and mortality rates related to MPIs for the elderly, as well as, consequently, reducing the burden with hospitalizations and avoidable treatments.

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