Risk factors for falls in institutionalized elderly: medication load

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Introduction

28-35% of individuals aged 65 years or more all in a year, 32-42% if over 70 years. Represents a high cost for health and social services: more than 50% of hospitalizations related injuries in those with 65 or more years (WHO, 2007). A major factor for falls is the use of fall-risk increasing drugs (Ziere et al. 2005).

General Objective and Methodology

Aims

Identify the risk factors associated with the occurrence of falls in institutionalized elderly. One of the factors is the medication used: polymedication and certain drug groups, i.e., psychotropic and cardiovascular drugs.

Risk factors were assessed at an initial stage and the occurrence/absence of falls observed for six months.

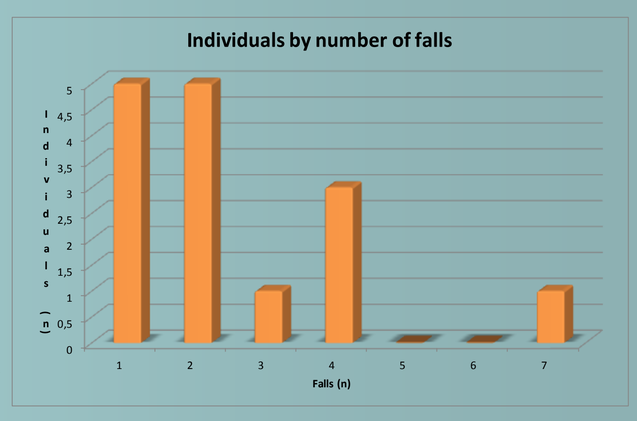
Population Sample

Elderly users of the residential structure of the Mansão de Santa Maria de Marvila, ≥ 60 years, ≥ 2 months of residency and without unstable health conditions or disability to perform gait. Sample: 45 residents, (38 females and 7 males) aged 60-94 years (average78.22 ,σ 9.03).

Results

FALLS

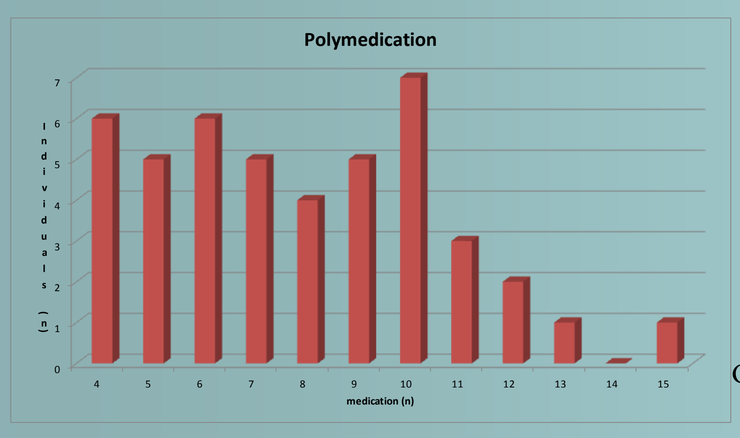
Of the 45 subjects, 30 (66.7%) had no record of falls in the previous year, but 28(62.2%) reported being afraid of falling. 37 falls were recorded in 15 patients (33,3%), 7 of which by the same individual.



Graph 1—Individuals (n) per number of falls occurred

MEDICATION

The entire sample use polymedication (≥ 4 drugs) with an average of 7.8 different drugs per individual (σ 2.8) and an average of 4.7 (σ 2.0) drugs that may increase the fall risk per person.



Graph 2—Individuals (n) per number of medication

Tab 1 -—Subjects using diferent drugs groups and the amount of medication per person

Drugs groups listed as associated with an increase in falls risk	Amount of medication per person (same drug group)				TOTAL of individuals
	1	2	3	4	
Psychotropic	12	19	7	3	41
Vasodilators	9	2	1	0	12
Eye drops	6	3	0	0	9
Antithypertensives	15	13	1	0	29
Proton Pump Inhibitors	20	0	0	0	20
Anti-epileptics	6	2	0	0	8
Antiemetics	1	0	0	0	1
Anti-Parkinson's drugs	4	0	0	0	4
Muscle relaxants	1	0	0	0	1
Oral Hypolgycemics	3	2	1	1	7
Antidysrhythmics	3	0	0	0	3
Anti-histamines	1	0	0	0	1

Data analysis

Linear regression (SPSS, version 20.0), obtained the following levels of significance as predictors of the occurrence of fall: medication overall p=0.682; medication that may increase fall risk p=0.721; psychotropic p=0.640, vasodilators p=0.801; antihypertensive p=0.591 and antiepileptic p=0.108. None by itself can be used as a predictor of the risk of falling in the sample studied.

Discussion and Conclusion

The high use of polypharmacy (total sample) and drugs that may increase the risk of falling should be analyzed and taken into account when prescribing medicines. Although not alone constitute predictors of the risk of falling in this study, can have adverse effects and interactions that must be supervised, especially in the elderly living in institutions.

Equally pressing is the need for programs to prevent the occurrence of falls, whereas 33.3% of the sample had at least one fall. The analysis of the remaining risk factors of falls that comprise this study may be informative about program development.

Acknowledgments

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