

# Potentially Inappropriate Medication Use and Their Predictors Among Elderly Patients with Systemic Autoimmune Disorders

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## Background

- The data on the prevalence of potentially inappropriate medications (PIMs) use and their predictors among elderly systemic autoimmune disorders is still unknown.
- Hence, we aimed to determine the prevalence and predictors of potentially inappropriate medication (PIM) use among elderly patients with systemic autoimmune disorders.

## Objectives

- To determine the PIMs use among elderly patients with systemic autoimmune disorders.
- To assess the frequency and nature of PIMs use among elderly patients with systemic autoimmune disorders.
- To identify the risk factors associated with the PIMs among elderly patients with systemic autoimmune disorders.

## Methods

**Study Design:** Cross-sectional study

**Study Site:** Department of Rheumatology & Immunology, JSS Hospital, Mysuru, India.

**Study Period:** 22 months (July 2019–April 2021)

**Study Subjects:** Elderly patients diagnosed with systemic autoimmune disorders according to the EULAR/ACR diagnostic criteria.

**Study inclusion criteria:** Patients of any gender and aged above 60 years and diagnosed with rheumatoid arthritis, systemic lupus erythematosus, systemic vasculitis and psoriasis.

## Methodology

- A clinical pharmacist reviewed medications details to evaluate PIM used according to the American Geriatric Society 2019 Beers criteria (BC).
- The descriptive data were presented in frequency and percentage.
- Multivariate logistic regression analysis was used to identify predictors associated with PIM use.
- The statistical data were analysed using SPSS version 25.

## Results & Discussion

- A total of 123 elderly patients' medication details were reviewed during the study period.
- Of them, 78 (63.4%) patients were found with at least one PIM use.
- A total of 192 PIMs use were identified with an average of 2.46 PIM use per patient.

### Demographic of study populations

Parameters	Overall patients [n=123 (%)]	Patient with PIMs [n=78 (%)]	Patient without PIMs [n= 45 (%)]
<b>Gender</b>			
Male	32 (26.0)	11 (14.1)	21 (46.6)
Female	91 (73.9)	67 (85.8)	24 (53.3)
<b>Distribution of age (Years)</b>			
60-69	20 (16.2)	12 (15.3)	8 (17.7)
65-69	34 (27.6)	25 (32.0)	9 (20)
70-74	37 (30.0)	24 (30.7)	13 (28.8)
75-79	20 (16.2)	10 (12.8)	10 (22.2)
≥80	12 (9.7)	7 (8.9)	5 (11.1)
<b>No. of prescribed medication</b>			
1-4	04 (3.2)	00 (00)	04 (8.8)
5-10	44 (35.7)	25 (32.0)	19 (42.2)
11-15	51 (41.4)	35 (44.8)	16 (35.5)
≥16	24 (19.5)	18 (23.0)	06 (13.3)
<b>Length of hospital stay</b>			
≤5	32 (26.0)	15 (19.2)	17 (37.7)
6-10	65 (52.8)	43 (55.1)	22 (48.8)
≥11	26 (21.1)	20 (25.6)	06 (13.3)

- Most of the identified PIMs use were related to older adults (n=90/192, 46%), followed by drug-disease or drug-syndrome interactions (n=39/192, 20.3%) and with caution use in older adults (n=11/192, 11.4%).

## Results & Discussion

### Common class of drugs involved in PIMs

Categories	Generic name of medication	Number of patients (%)	Quality of evidence
PIMs in older adults			
NSAIDs	Naproxen	15	Moderate
PIMs in older adults due to drug-disease or drug-Syndrome interactions			
Ulcers (gastric or duodenal)	Aspirin	7	Moderate
Kidney disease	Aceclofenac	4	Moderate
PIMs to be used with caution in older adults			
ACEI or ARB or Opioid	Tramadol	6	Moderate
PIMs due to drug-drug interactions (DDIs)			
DDIs between two medications	Aceclofenac-prednisolone	8	Moderate
PIMs based on the kidney function in older adult			
Anti-infective	Ceftriaxone	3	Moderate

- The increased number of medication use  $\geq 10$  drugs (OR 5.36, 95% Confidence Interval: 2.40-8.72,  $P < 0.001$ ) was identified major predictor to PIM.

## Conclusion

This study revealed that PIM use was common (63.4%) among elderly patients with systemic autoimmune disorders and required close monitoring to avoid further complications.

## Reference

Lima TJV, Garbin CAS, Garbin AS, et al Potentially inappropriate medications used by the elderly: prevalence and risk factors in Brazilian care homes. 2013;13(52):1-7.

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