ORIGINAL RESEARCH PAPER

Geriatrics

IDENTIFICATION OF POTENTIALLY INAPPROPRIATE PRESCRIBING IN OUTPATIENT GERIATRIC CARE USING STOPP START CRITERIA AND THEIR IMPACT ON QUALITY OF LIFE AT DY PATIL HOSPITAL, NAVI MUMBAI

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INTRODUCTION

The world's geriatric population continues to increase rapidly. The current statistics indicate that 8.5% of the world's population are aged > 65 years and is expected to increase to 17% by 2050[2] Geriatric population in India has increased significantly in the past two decades with the possibility that this population may reach 194 million in 2031 as described in the report "Elderly in India," 2021 by the National Statistical Office[1].

With an increase in the prevalence of prescribing multiple medicines it make geriatric patients more prone to drug-related adverse events combined with drug-drug and/or drug-disease interactions, increased hospitalization and increased healthcare costs[3,4,5] The occurrence of adverse drug reactions (ADR), in turn, necessitate the use of other medications and thereby amplifying medication-associated risks[6].

The prescribing cascade begins when an adverse drug effect is misinterpreted as a new medical condition, an additional drug therapy is prescribed and the patient is placed at risk for the development of additional adverse drug effects relating to this potentially unnecessary treatment[7]

Management of ADRs is an additional economic burden on an already shrunken purse.[8] ADRs also increase morbidity in the elderly population leading to a poor quality of life (QOL). Multimorbidity, polypharmacy, PIMs, and ADRs, have a huge impact on QOL in the elderly population.[9] Better QOL is the whole and sole aim of any treatment modality.

There are various methodologies to assess PIP among them, STOPP and the START criteria are one of the most widely used criteria. It was first published in 2008, which was updated in 2015 and includes 114 (34 START and 80 STOPP) criteria[10,11].

Deprescribing can reduce polypharmacy and inappropriate prescription with use of the Screening Tool of Older Persons' Potentially Inappropriate Prescriptions (STOPP) / identifying underuse of potentially beneficial medications by using Screening Tool to Alert to Right Treatment (START).

STOPP criteria consists of a section related to indication of medication (drug prescribed without an evidence based clinical indication, drug prescribed beyond the recommended duration, where treatment duration is well defined, and duplicate therapy) and other sections in which medications are arranged according to a physiological system accompanied by an explanation of why they are potentially inappropriate.

START criteria encompasses medications arranged according to a physiological system that should be considered for people with certain conditions (PPOs)[11].

The Short-Form Health Survey version 2 (SF-12v2) was used

because with only 12 items, it has less respondent burden compared to the 36-item Short-Form Health Survey (SF-36)[12]

This is done to relieve the symptoms, enhance patients' functional status and overall improve their quality of life (SF - 12 score used as quality of life measure).

AIMS & OBJECTIVES

*   To identify potentially inappropriate drugs prescribed to the elderly to minimize drug related adverse events and to determine the impact on their quality of life.

MATERIAL AND METHODS

This is a prospective observational study on 280 patients greater or equal to 65 years of age

Inclusion Criteria

1. Patients 65 years and above age of either sex that have been prescribed medications after visiting various OPD
2. Either the patient or the informant will be able to give a proper drug history

Exclusion Criteria

1. Patient without a diagnosed medical condition or prescription.
2. Patients with poor cognition (with no reliable care giver)
3. Patients admitted in wards

The details of drugs the patients were currently on (over the previous 2 weeks) were noted in Proforma

Essential drug omission was assessed using START criteria.

Observations

Table 1 : Age Distribution

Age group (years)	No.	%
65-70	200	71.4
71-80	55	19.6
>80	25	8.9

Table 2 : Treatment Factors

Treatment Factors	No.	%
Polypharmacy (> 5 drugs)	225	80.36
Excessive polypharmacy (> 10 drugs)	150	53.57
Treating doctors		
Physicians	100	35.71
Others	180	64.29
Number of treating doctors		
2 doctors	250	89.29
> 2 doctors	150	53.57
Infrequent health check up (minimum of 6 monthly check up)	225	80.36
Cost of treatment		
5000 – 10000 rupees / month	210	75
> 10000 rupees / month	70	25
Self medication use	100	35.71

Over The Counter medication use	270	96.43
Ignorance about the treatment	100	35.71
Non compliance to treatment	50	17.86
Assisted drug administration	100	35.71

Table 3 : Comorbidities

Comorbidities	No.	%
Diabetes	200	71.43
Hypertension	250	89.29
Dyslipidaemia	180	64.29
Coronary heart disease	220	78.57
Chronic obstructive Pulmonary disease	150	53.57
Chronic kidney disease	80	28.57
Dementia	50	17.86
Parkinson's disease	5	1.79
Malignancy	85	30.35
Osteroarthritis	5	1.79

DISCUSSION

The proportion of the elderly is increasing with each decade all over the world and it is a known fact that the elderly and drugs are inseparable; the reason for this is the presence of underlying chronic disease conditions and the increased awareness and expectation of the population. Unfortunately inappropriate prescribing is seen very commonly in our elderly people. This is not to be taken lightly as it is associated with potentially serious health outcomes and mortality.

A total of 280 patients were recruited after fulfilling inclusion criteria. Most of them 200 (72%) were between 65-70 years of age and only 25 (9%) were above the age of 80 years. The sample was primarily males 168 (60%) and the majority of the people were either staying with their spouse or with children in more than 266 (95%) of cases.

Many studies have shown that drug related morbidity and mortality is often preventable by simply avoiding the use of inappropriate drugs. There are many explicit criteria to screen for PIM use in the elderly, but among them START / STOPP criteria is the widely used criterion. In this study antipsychotics with Parkinson's disease, PPI for uncomplicated peptic ulcer disease or erosive peptic esophagitis at full therapeutic dosage for >8 weeks, Antimuscarinic drugs with dementia, or chronic cognitive impairment, Metformin if eGFR <30 mL/min/1.73m^2 , Oral elemental iron doses >200 mg/day Pioglitazone with heart failure, long term NSAID (>3 months) for osteoarthritis pain were commonly observed under STOPP criteria.

START criteria was not as fulfilled as compared to STOPP by the patients.

The study is done to improve understanding of the QoL and psychosocial functioning of patients enrolled. In this study, we observed that there is a negative association between PIM and QoL in elderly patients. Age, cognitive impairment, dependency status and presence of diabetes mellitus and coronary artery disease were found to be independent risk factors for polypharmacy.

CONCLUSION

Practical steps can be taken to optimize prescribing for older adults that include reviewing current drug therapies, discontinuing potentially unnecessary drug therapies and considering non pharmacologic treatment approaches.

Reducing polypharmacy and PIMs in older individuals may be accomplished through deprescribing and interventions utilising the STOPP criteria. Applying STOPP/START criteria improves clinical outcomes in multi-morbid older people.

STOPP/START criteria as an explicit clinical tool that would be applied in routine clinical practice for the purpose of improving the quality and appropriateness of medication for multi-morbid older people with associated polypharmacy.

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