



## DE-PRESCRIPTION: A PROSPECTIVE OBSERVATIONAL STUDY IN THE INPATIENTS SETTING OF A TERTIARY CARE HOSPITAL

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Article Received on  
06 Sept. 2018,

Revised on 27 Sept. 2018,  
Accepted on 18 Oct. 2018

DOI: 10.20959/wjpps201811-12661

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### ABSTRACT

**Background:** De-prescribing is the process of purposely stopping a medication or reducing its dose to develop the person's health or reduce the risk of ADEs. **Objectives:** To objectives of the study was to identify and evaluate the de-prescribing medications among inpatients with co-morbidities and assess the patient adherence and improve the quality of life. **Methods:** This prospective observational study was carried out in a tertiary care hospital in Bangalore during the period of March 2018 to May 2018. **Results:** In this study out of 100 patients, 32 patients had undergone De-prescription and 68 patients hadn't. The parameters evaluated in the study include patient's age group, gender, co-morbid conditions, adherence to de-prescription and no de

-prescription. The distribution based on age group was categorised into four includes 20-35, 36-50, 51-65 and above 65 years. Increased number of de-prescription was identified in the age group above 65 years .i.e 71.88% with de-prescription and 42.65% without de-prescription. Among the co-morbid conditions, hypertensive patients undergone greatest number of de-prescription (14) followed by CAD/IHD (8) and DM.(5) **Conclusion:** This study concluded that de-prescriptions were occurred to be more among elderly patients when

compared to other age group. Elderly patients are suffered with multiple co-morbid conditions which may lead to polypharmacy.

**KEYWORDS:** De-prescription, No de-prescription, Polypharmacy, Co-morbidities, Elderly patients.

## INTRODUCTION

De-prescribing is the process of purposely stopping a medication or reducing its dose to develop the person's health or reduce the risk of ADEs.<sup>[1]</sup> A main predictor for improper medication use is polypharmacy. Multiple co- morbidities lead to an increased number of drugs prescribed (polypharmacy) thus greater the risk of adverse drug events (ADEs).<sup>[2]</sup> It has been found that 44% of patients were prescribed with at least one unnecessary drug at the time of hospital discharge.<sup>[3]</sup> Major causes of polypharmacy are.

- Increased number of physicians and clinical guidelines.
- Unavailability of EBM and knowledge about drug-disease-patient interaction.
- Barriers of medical doctors fear to de-prescribe.

Dose reduction and changing to safer medications are also considered dep-rescribing strategies that retain effectiveness while decreasing harm.<sup>[4]</sup>

De-prescribing also has additional benefits to the patient such as increasing the patient's involvement in medication therapy management and improving adherence possibly by decreasing polypharmacy.<sup>[5]</sup>

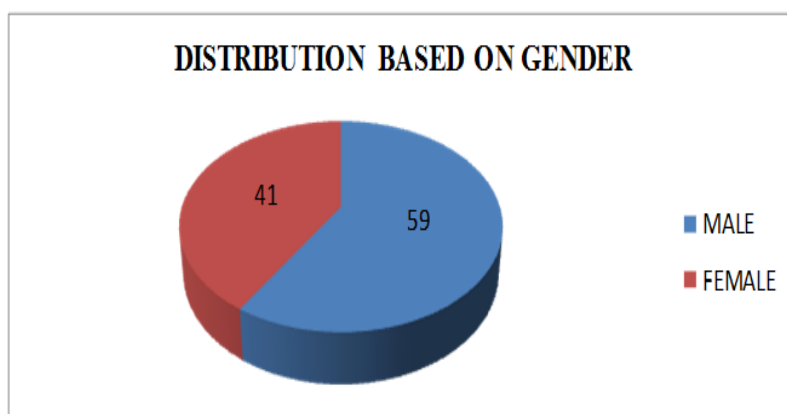
The barriers to de-prescribing include prescribing medications comes more naturally to most physicians than De-prescribing medications, lack of skills and knowledge to de-prescribe in a safe and effective manner and fear of causing an adverse effect.

## MATERIALS AND METHODS

The study is a prospective observational study carried out in tertiary care hospital for a period of 3 months with sample size 100 patients. Patients with any co-morbid condition and those above 20 years of age are mainly included in the study. Pregnant woman, paediatric patients and patients without any co-morbid conditions were excluded. Out of 100 patients, 32 patients had undergone De-prescription and 68 patients hadn't.

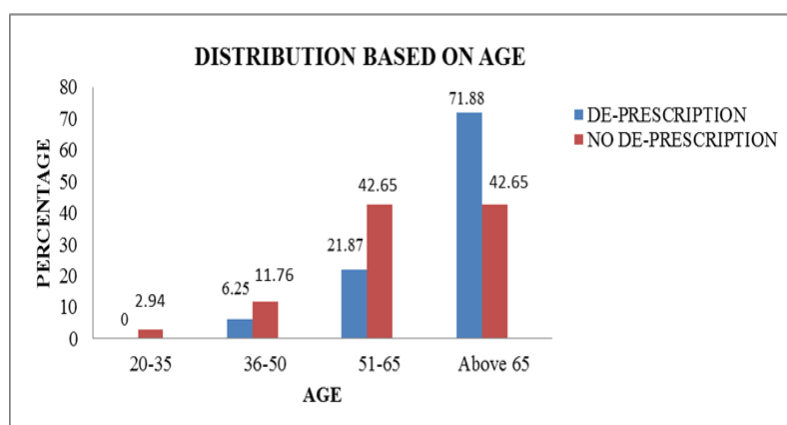
## RESULTS AND DISCUSSION

The study was conducted prospectively during a period of 3 months (March 2018- May 2018) in a tertiary care hospital in Bangalore. During this study period a total of 100 cases were collected in the hospital. Of which 32 patients were undergone de-prescription and 68 patients were undergone no de-prescription. The parameters evaluated in the study include patient's age group, gender, co -morbid conditions, adherence to de-prescription and no de-prescription.



**Fig. 1: Distribution of patients based on gender.**

Based on gender, out of 100 patients 41 were female and 59 were male. This was similar to the study conducted by Henok Getachew Tegegn in 2017.<sup>[6]</sup>



**Fig. 2: Distribution based on age.**

The distribution based on age group was categorised into four includes 20-35, 36-50, 51-65 and above 65 years. Increased number of de-prescription was identified in the age group above 65 years. i.e 71.88% with de-prescription and 42.65% without de-prescription. This

was similar to the study conducted by Henok Getachew in 2017.<sup>[6]</sup> The least number of de-prescription was found to be in the age group of 20-35. In the age group 20-35, 36-50 and 51-65, the percentage of de-prescription were found to be zero, 6.25% and 21.87%. The percentage of no de-prescription are found to be 2.94%, 11.76% and 42.65%.

**Table. 1: Distribution based on comorbidity.**

Comorbidities	De-prescription	No de-prescription
Hypertension	14	69
Diabetes Mellitus	5	60
CAD / IHD	8	30
Hypothyroidism	1	12
Chronic kidney disease	0	9
Urinary tract infection /BPH	0	4
Liver disease/ Hepatitis	0	6
Cancer	0	3
Bronchial asthma	0	3
OA/RA	1	7
Sick sinus syndrome	1	1
Dyslipidemia	1	1
Gout	0	2
Seizure	1	2
Parkinsonism	0	1
Gastritis	0	1
Fungal infection	0	1

Among the comorbid, conditions hypertensive patients undergone greatest number of de-prescription(14) followed by CAD/IHD(8), DM (5). Non adherence of de-prescription was found for the comorbidities like hypothyroidism, CKD, UTI, liver disease, cancer, bronchial asthma, osteoarthritis, Sick Sinus Syndrome, dyslipidemia, gout, gastritis, seizure, Parkinsonism and fungal infections. It was similar to the study conducted by Doron Garfinkel in 2018.<sup>[1]</sup>

## CONCLUSION

This study concluded that de-prescriptions were occurred to be more among elderly patients when compared to other age group. Elderly patients are suffered with multiple comorbid conditions which may lead to polypharmacy.<sup>[7]</sup> So practitioners are urged to focus on deprescribing as part of ongoing treatment evaluation and medication management, with the goal of minimizing preventable harm and decreasing medication burden.<sup>[8]</sup> Hence clinical pharmacist's role is essential for the monitoring of therapeutic results and adverse effects in elderly patients.<sup>[9]</sup>

**ACKNOWLEDGEMENT**

We express our heartfelt gratitude to our staffs and friends for their immense support.

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