

Management of Polypharmacy in older People

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Polypharmacy is identified as global issue. Prescribing medications or treatment for age related changes in body and multiple pathology should be kept in account. So, the health care professionals are facing critical issue to prescribe medications in consideration with balance between aggressively treating diseases and avoiding medications & harm caused due to it.

Polypharmacy or multi-morbidity is explained as use of multiple medications simultaneously by a patient. It mainly refers to use of five or more medications.

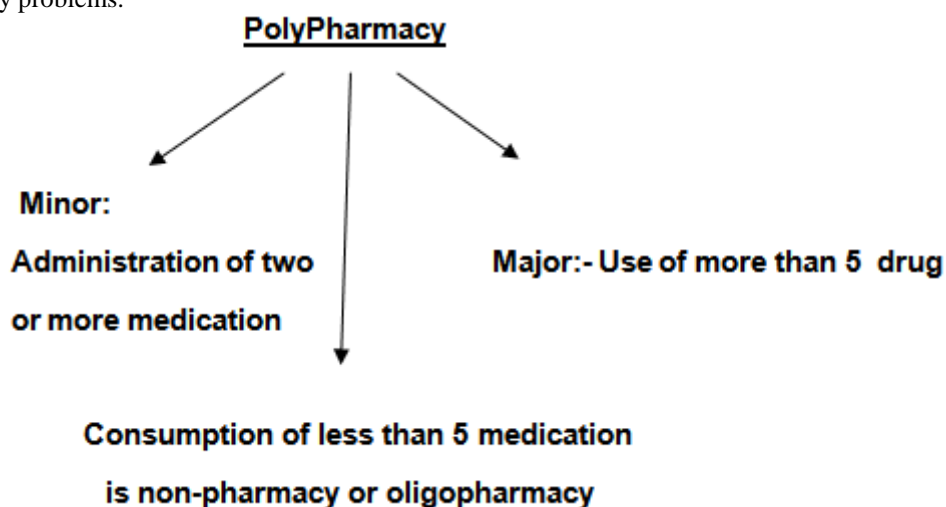
Harmful effects of taking multiple medicines can include:

- Falls and fractures.
- Memory problems.

- Hospitalisation.
- Higher risk of death.

PolyPharmacy is often happens when a person has many chronic diseases such as diabetes, high blood pressure, heart failure, osteoporosis or symptoms related to pain or insomnia or requiring long term treatment with medications.

A famous Greek Physician, Galen, who practiced in Rome. His name is used to refer some drugs as Galenical drugs (these are pharmaceutical compounded by mechanical means, mostly of the vegetable material). He was father of Polypharmacy.



Term	Numerical only	Total number of definitions
Moderate polypharmacy	1	1
Major polypharmacy	11	12
Hyperpolypharmacy	1	2
Excessive polypharmacy	8	10

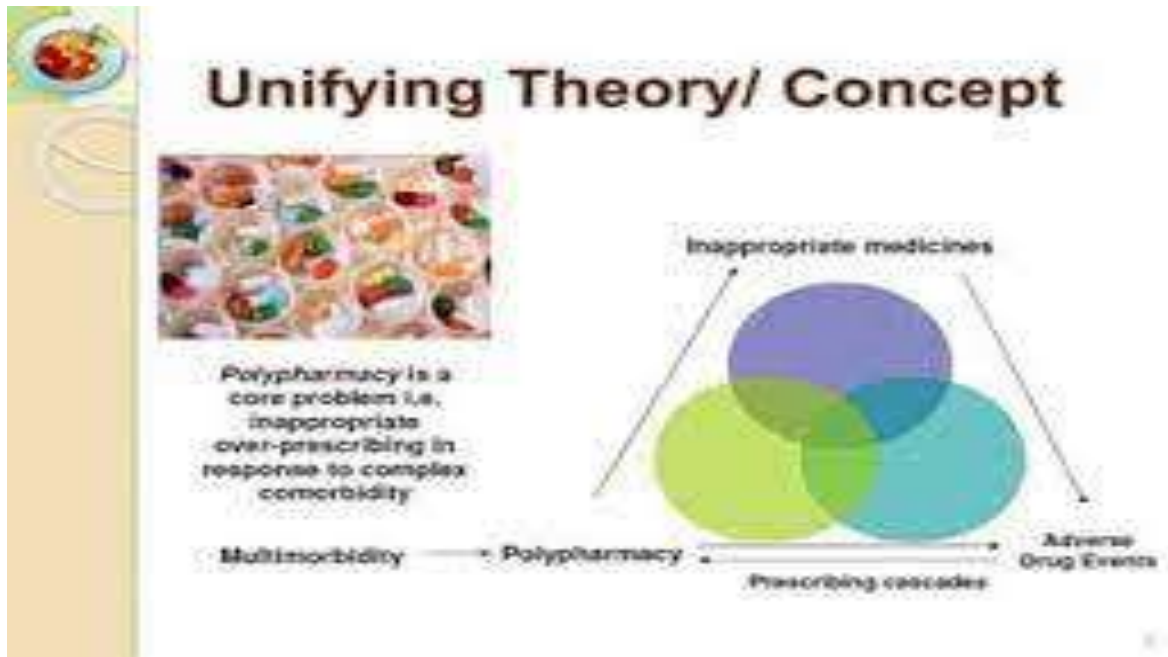
Polypharmacy is mainly common in older people aged 65 or above as this age group of people

is often subject to multimorbidity (defined as two or more chronic conditions) such as diabetes, high

blood pressure, heart failure and other diseases which require multiple medication for treatment and prophylaxis.

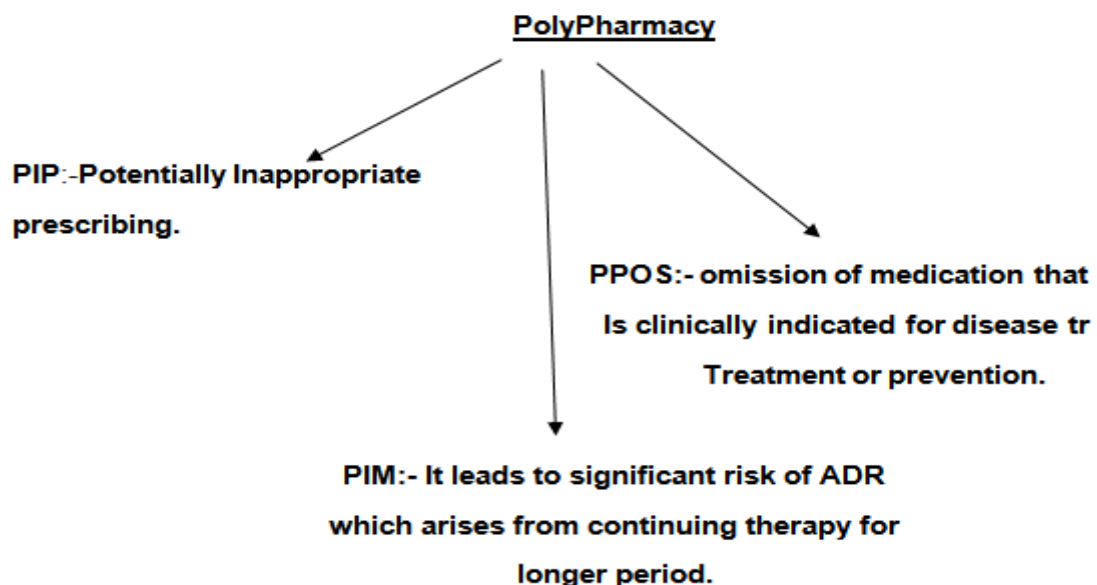
Factors which contribute for occurrence of polypharmacy is increase in life expectancy and resultant growth in the prevalence of

polypharmacy. It is widely recognized that prescribing guidelines typically focus on single diseases and when applied to complex multimorbid patients often fail to provide information on how to prioritize treatment recommendations and can act as a driving force for polypharmacy.



Healthcare professionals should avoid inappropriate prescribing medications to older people rather than should opt for alternatives which

are safe to avoid adverse drug reaction (ADR) and Adverse drug Interaction (ADI).



In case of older aged people there is chance of adverse events of drug due to ageing which reduces the efficiency of body organs for following ADME (Absorption, distribution, metabolism, and excretion) mechanism in body.

Aim of Identified Interventions

- Reduction of polypharmacy (lowering the number of drugs prescribed and/or used)
- Increasing the use of a recommended medication.
- Lowering the costs (drug costs, and/or overall healthcare system expenditures)
- Enhancing patient adherence to medication.
- **Deprescribing is considered one of the most effective ways to decrease polypharmacy**

➤ It comprises of five steps:-

- 1- Ascertain all drugs the patient is currently taking and the reasons for each one;
- 2- consider overall risk of drug-induced harm in individual patients in determining the required intensity of deprescribing intervention;
- 3- assess each drug in regard to its current or future benefit potential compared with current or future harm or burden potential;
- 4- Prioritize drugs for discontinuation that have the lowest benefit-harm ratio and lowest likelihood of adverse withdrawal reactions or disease rebound syndromes;
- 5- Implement a discontinuation regimen and monitor patients closely for improvement in outcomes or onset of adverse effects.

Consequences of Poly Pharmacy:-

- 1-Adverse Drug Reaction
- 2-Drug-Drug reactions
- 3-Decreased medication compliance
- 4-Unnecessary drug expenses
- 5- Poor quality of lives,outcome

Tools to decrease polypharmacy:-

- 1-BEERS Criteria
- 2-STOP Criteria
- 3-START Criteria

METHODOLOGY:-

A case control study can be carried out by considering a group of people above 60 years and another group less than 60 years. The nearby health center can be contacted for easy access to get approximate list of people of desired group and relevant information can be gathered. As per the list

the elderly people will be invited to participate in the study and are given the required information of study over phone & home visit.

The required information as well as pharmaceutical information including number, type, duration, dosage for both group will be gathered using standard questionnaire. The use of 5 or more medication in a day will be considered as polypharmacy. Questionnaire will also include a section as effect & no-effect of polypharmacy and the periodically consumed medication will also be considered and it also includes prevalence consumption of drugs.

The presence or absence of chronic disease will also be investigated either by directly asking to patient or can be checked through medical records and through prescription on consultation with physician. If the result is no chronic disease then it will be considered as negative. Also, depression, thyroid, diabetes, hypertension will also be determined through laboratory test & examination & filled in questionnaire.

To evaluate this test and questionnaire, question citing particular health disease will prepared with score mention it as

30 or more -----	Normal
20-30 -----	Mild
10-20 -----	Moderate
Less than 10 -----	Severe

The collected data were statistically analyzed after they were entered into SPSS Statistics version 18 and after running different tests including Chi-square test, independent samples t-test, and logistic regression. Logistic regression model is used to investigate affective variables on polypharmacy. $P \leq 0.05$ was considered statistically significant.

CONCLUSION

Polypharmacy in elderly is a necessary evil. Although it is not always inappropriate but the "inappropriateness" should be judged on a case to case basis.

Necessary tools should be used to avoid it and deprescribing is recommended to correct it as soon as it is labeled as a case of "inappropriate polypharmacy".