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A Review on Prescription Pattern Monitoring Studies in Different Areas of India

			
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ABSTRACT

The choice of basic prescriptions is just one stage towards the improvement of the quality of medicinal services; determination should be followed by proper use. Every individual should get the correct medication, in a satisfactory portion for sufficient time, with proper data and follow-up treatment, and at a reasonable price. In the world, half of the drugs were prescribed, administered, marketing improperly and half of the patient's shows medication adherence. Besides, 33% of the total populace needs access to essential medication. The circumstance is alarming. Shockingly, due to wrong utilization, the viable prescriptions of yesterday become incapable today. An exemplary model is antimicrobial medications. Hence, also, to accomplish improved openness of basic medications (accessibility and moderateness); it is similarly important to utilize the meds suitably, known as rationally. Drug utilization studies and prescription pattern are bounds together, Drug utilization studies within the population concentrating on the irrational use of drugs are known as Prescription pattern monitoring studies.

INTRODUCTION

Providing optimal care drugs assume a significant job and affect wellbeing. For the duration of the most current many years of the 20th century, new meds have specifically dwindled mortality, abbreviated hospitalization stay, and advanced non-public satisfaction for lots of individuals. Be that as it may, it's miles additionally essential to understand the bad effects of drug remedy and the developing problem of unseemly medicine use, with problems strolling from accelerated morbidity and mortality to intense medicalization, polypharmacy, adverse medicine responses (ADRs) and expanded antimicrobial resistance.

Prescription pattern monitoring studies defined as the study of drug utilization in a population with a focus on the rational uses of the drug.

Rational use of drugs is described as "Physicians prescribe the medicine to patients according to their clinical need, in that dose that meets their necessities, for sufficient period and at minimum expense to them and their network." [1] The World Health Organization (WHO) gives guidelines that help us to improve the rational use of medicine in society and along these guidelines advance the discerning utilization of medications in a medicinal services facility. [2] It is expected to evaluate the sane recommending ability of the clinicians, and this should be possible by directing the periodic prescription audit. This review article describes the drug prescribing pattern in different tertiary care hospitals.

The WHO guideline for prescribing [2]

- The usual number of drugs prescribed by a physician per encounter
- Number of drugs prescribed at generic name to the patients
- Number of patients with an antibiotic prescribed in prescription
- Number of drugs prescribed as injectable
- Percentage of drugs prescribed from the essential drugs list (EDL) or

World Health Organization (WHO) presented the idea of fundamental medications in 1977.
(3)

In a population, Essential drugs are those that fulfil the human service's needs. They are chosen with due respect to general wellbeing importance, proof on efficacy and safety, and near cost-adequacy. Basic drugs are proposed to be accessible inside the setting of working wellbeing frameworks consistently in a satisfactory amount, in the suitable measurement structures, with guaranteed quality and sufficient data, and at a value, the individual and the network can bear. The usage of the idea of fundamental medicines is likely to be adjustable and flexible to a wide range of situations.

The unseemly utilization of medications is across the board. It is exorbitant and amazingly destructive both to the individual and the populace all in all for the most part in youth contamination and chronic infections like hypertension, diabetes, epilepsy, and mental issue. (3) Increased occurrence of ADE (Adverse drug events) and resistance is another significant issue.

The rational utilization of Medicines (RUM) is characterized as "Patients take the drugs according to their clinical needs for a satisfactory timeframe in portions that meet their therapeutic effect and at the lowest cost for them and their community."(4) Irrational use of medicine happens when physicians or patients don't follow the conditions of guidelines. The utilization of such a large number of medications per patient; common types of irrational utilization of prescriptions improper utilization of antimicrobials drugs, regularly in deficient measurements, for non-bacterial diseases; abuse of injection; and remedies not as per standard guidelines.

Overall over half of all drugs (50%) are recommended, administered, or sold improperly, while half of the patients neglect to take them effectively. Also, 33% of the total populace lacks access to basic medication. (3) The circumstance is alarming. Sadly, on account of unseemly use, the successful medications of yesterday become inadequate today. An exemplary model is antimicrobial drugs. Hence, also, to accomplish improved openness of basic medications (accessibility and moderateness); it is similarly important to utilize the meds suitably, known as rationally. Fundamental health care services are provided by Primary Health Care (PHC) offices in India by isolated these services into three levels and these are Primary Health Care Centre (PHCC), Health Post (HP), and Sub-Health Post (SHP).

The definition of drug utilization research given by WHO in 1977 is the “study of the promoting, marketing, appropriation, remedy and the utilization of medications in the general public, with special focusing on the outcomes from subsequent clinical, social and economic factors”. [5]

A few investigations of drug utilization directed in many developed nations show wide proof of irrational uses of drugs. [6-9] In developing countries like in India, Studies found that there is a gradual increase in the irrational uses of drugs in patients. [10-13]

Drug utilization studies have been instrumental in finding out the effect of medications and endorsing designs on human services. They are imperative for evidence-based medication use and healthcare decision making. Irrational utilization of medications causes an expanded expense of treatment, upgraded antimicrobial resistance, the higher danger of adverse events, and antagonistically sway understanding mortality. [14] Hence, in recent years, to assess the working of the health system and promote rational use of drugs in India, drug utilization studies have become a perceptible tool. [15] Prescribing pattern observing can help recognize the lacunae and give feedback to prescribers to make awareness about the appropriate utilization of medications. [16]

PRESCRIPTION PATTERN MONITORING STUDIES IN INDIA

Prescription pattern monitoring of Antihypertensive drugs

A cross-sectional, observational-based study was sought in the OPD of Medicine department of Dr. B C Roy Hospital associated with ICARE Institute of Medical Sciences & Research, Haldia, West Bengal in 2019. Data regarding anti-HTN monotherapy and combination therapy were recorded from patients suffering from essential hypertension and prescribed antihypertensive at Medicine O.P.D. [17] To classify the trended prescription pattern of hypertensive patients, a similar cross-sectional study was conducted for 6 months in 2015. Patients with essential hypertension who attended the OPD were included. [18] In 2006, in the out-patients department of tertiary care hospital of Lucknow a cross-sectional study was carried out for 10 months. In this study to decrease the chance of physician bias, this study was not discussed with the physician, and patients with HTN were included. [19] A cross-sectional, non-interventional, observational-based study was conducted in the Karwar Institute of Medical Sciences, Karwar for 6 months in 2017. Patients suffering from hypertension and admitted to the IPD department of the hospital were included. [20] A

retrospective, cross-sectional study was conducted at Dhanalakshmi Srinivasan Medical College and Hospital (DSMCH), Perambalur (Tamil Nadu) for 10 months in 2019. In this study elderly patients having age 65 and above and patients who were suffering from hypertension were included in this study. [21] From the all above studies we conclude that the prescription pattern of the antihypertensive drug is according to the JNC-7 guideline but the JNC-8 guideline also be published. The use of drugs for the treatment of hypertensive drugs is rational. We see that prescriber prefers the combination of the drug used for the treatment of hypertension for effectiveness and this combination is more effective than single therapy.

Prescription pattern monitoring of Antidiabetic drugs

In the Outpatient Pharmacy at Dayanand Medical College and Hospital, Ludhiana, a cross-sectional study was conducted for 12 months in 2017. Prescriptions with antidiabetic drugs were captured and evaluation of the prescribing pattern of antidiabetic drugs was done along with pharmacoeconomic analysis. [22] A prospective, observational-based study was steered in the OPD of Medicine department of Government Medical College, and a super facility hospital, a tertiary care teaching hospital for 6 months in 2018. Patients diagnosed with diabetes mellitus (both type 1 and type 2) admitted at the In and outpatient department of General Medicine were included. [23] A another prospective, cross-sectional, observational-based study was steered to analyse the current prescription pattern in the Medicine outpatient department of Shadan Institute of Medical Sciences, Hyderabad for 3 months in 2019. This study was steered on the patient's visit to the OPD medicine department having the complication of type 2 diabetes mellitus. This study concerning the drug prescribed by the physician, drug doses, frequency, duration of treatment, and ADRs of drugs which are prescribed to the patients. [24] A cross-sectional observational-based study was conducted in Sri Siddhartha Medical College, a tertiary care centre in Tumakuru, the southern part of India for 9 months in 2016. [25] A observational study was conducted in the Department of Medicine, DRPGMCH Tanda at Kangra, H.P, India for 3 months in 2019. Patients diagnosed with Type 2 Diabetes mellitus were included. [26] From the all above studies we conclude that prescription pattern used by the physician for the treatment of Diabetes is rational. Biguanides with combination with sulfonylureas are the most prescribed drugs in dual therapy. But in the prescription of diabetic patient's newer drug-like DPP4-I had found a significant place.

Prescription pattern monitoring of Antipsychotic drugs

A retrospective, observational study was conducted in the out-patients department of psychiatry in tertiary care hospital in Gujarat for 6 months in 2019. [27] A observational study was conducted in the psychiatry outpatient department of Mahatma Gandhi Medical College and Hospital, Jaipur for 12 months in 2018. Old and new psychiatric patients attending the Psychiatry OPD was included. [28] On the base of the dataset of the fourth survey a cross-sectional study was conducted by the Research on Asian Psychotropic Prescription Pattern for Antipsychotics (REAP-AP4) projects was conducted for 3 months in 2016 for analysis and observing the prescription pattern of psychotropic medications which is used in the treatment of schizophrenia and depression across India. [29] A prospective, observational study conducted was conducted in the Department of Pharmacology, Maulana Azad Medical College, and Department of Psychiatry at Govind Ballabh Pant (G.B. Pant) Hospital, New Delhi for 3 months in 2015. [30] These above studies show poly-pharmacy in every antipsychotic prescription.

Prescription pattern monitoring of antiepileptic drugs

A cross-sectional, observational-based study was steered in the department of neurology of a tertiary care hospital in Navi Mumbai, Maharashtra in 2019 for a time period of six months. Patients who were being prescribed AEDs for seizure disorder were included. [31] A cross-sectional survey-based observational study was conducted at the Department of Medicine of tertiary healthcare and teaching hospital for 12 months in 2016. [32] A hospital-based prospective and retrospective observational study was conducted in KIMS Hospital, Bangalore in 2010 and 2011. [33] From all these studies we conclude that monotherapy is one of the favorite therapy of the prescriber then multiple-therapy. Prescriber selects its AEDs according to seizure type and syndromes. These studies also propose that some newer drugs also take place in the prescription.

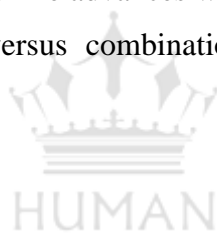
Prescription pattern monitoring of antimicrobial drugs

An observational-based prospective study was steered in the IPD of the medicine department of Gauhati Medical College & Hospital, Guwahati (GMCH), Assam, India for 2 months. [34] A study was steered in the medicine department of Viswabarathi Hospital for 4 months in 2015. This study was a prospective based study and conducted with the objective of the study of the drug utilization patterns of antibiotics in hospitals [35] In the Paediatric Department of

Mahatma Gandhi Memorial Hospital, Warangal, Telangana, India, an observational-based prospective study was conducted for 6 months. [36] All the above studies conclude that all the antimicrobial agents are used inappropriately and there is a lack of adherence to standard guidelines given by authorities resulting in an increased incidence of antimicrobial resistance.

CONCLUSION

The results of this systematic review of prescription patterns conclude that irrational use of drug practices is occurring altogether regions of India. Irrational utilization of medicine might result in enhanced adverse effects, magnified morbidity and mortality, larger wastage of resources, and higher owed expenses for patients. based on this review we tend to suggest that continuous education and training of physicians are required to strengthen rational prescribing. In the last few years, the incidence of unwellness is increased and the development of new medicines has taken place in the prescription for the management of the disease. This can be significant with regards to antibiotics, injectable, generic medicines, and prescribing from an essential drug list. The advances within the therapeutical aspects and also the effectiveness of monotherapy versus combination therapy haven't been extensively studied.



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