

Analysis of OPD Prescription according to the (WHO) World Health Organization Prescribing Indicators in Delhi, India.

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TITLE-

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INTRODUCTION/ BACKGROUND

The use of drugs has been a part of human life for centuries. Today, the use of drugs is an important part of modern life. The use of drugs can improve the quality of life, help people cope with the challenges of life, and help people live healthier lives. The use of drugs has also been the source of many debates and concerns.

The World Health Organization (WHO) has defined **rational use of drugs** when the patients get medicines which fulfil their clinical needs to meet their requirements at affordable prices.

Use of a lot of medicines per patient, which is called poly pharmacy, inappropriately using antimicrobials which are nonbacterial, overuse of injections in patients. Antibiotics are overused specially in the paediatric age group and in the outpatient setting. This is because of their effectiveness in treating certain infections caused by common pathogens, and because of the relative ease and safety of their use compared with other antimicrobial agents (e.g., the flu virus, strep throat).

Physicians sometimes prescribe antibiotics to treat nonbacterial infections because they believe that they are effective and, therefore, beneficial. Although antibiotics are generally beneficial, a small number of people become critically ill or die when they take them. Antibiotics can also cause side effects, and the risk of side effects increases with the number of drugs the person is taking. Side effects from antibiotics can include diarrhoea, nausea, vomiting, rash, hair loss, and stomach upset.

50 percent of all drugs prescribed, manufactured worldwide, and half of patients fail to take them as needed. About 33% of the world's population do not have access to essential medicines. Polypharmacy, excessive use of antimicrobials in non-viral diseases, overuse of oral contraceptives, and failure to administer them according to clinical guidelines is a common practice of irrational drug use.

Drug abuse is a global health issue, especially in India. Therefore, in order to maximize profits and promote good health, drugs must be used sparingly. Effective drug use is the way drugs are in doses that meet the individual needs of the patient long enough, at low cost for themselves and their community. Nonsense drugs have a negative impact on both health spending and health care. A doctor's prescription test is a useful way to assess instructions, which improves the overall quality of health care. The purpose of this is to review the effective use of drugs in terms of completeness, readability, and comparisons with WHO recommended drug use indicators.

The instructions are one of the decisive criteria for promoting the proper use of drugs. It is a medical record between the prescriber and the dispenser. It is a written instruction written by

the registrar to the issuer of how the drug should be dispensed. It serves as a means of communication between the supplier, supplier, and buyer of prescription or prophylaxes.

Prescription auditing is a method where a pharmacist, physician, or other qualified individual reviews a prescription and makes recommendations about whether the medication should either be continued or discontinued. Prescription auditing is an important tool for ensuring that medications are being used appropriately. WHO-recommended core drug use indicators include the following four dimensions of drug use: (1) the completeness of the drug therapy, (2) the clarity of the writing and the readability of the instruction, (3) the accuracy of the instructions, and (4) the proportion of patients who can read and understand the instructions.

Polypharmacy, excessive use of antimicrobials in non-viral diseases, overuse of injections where oral formulation would be more appropriate. Doctors sometimes prescribe antibiotics to treat bacterial infections because they believe it is effective and, therefore, beneficial. Although antibiotics are usually beneficial, a small number of people become sensitive.

The use of medicines is an essential part of health care. Medicines along with the other components of the health care system save lives and promote health, but they also help to prevent diseases. The medicines we use today have improved our quality of life and saved many lives. The medicines we use today have improved our quality of life and saved many lives.

The cost of medicines can be up to 76% of the total cost of health. However improper drug use has been largely seen in the health care systems. Medications are given inadvertently or discontinued and half of patients fail to adhere to a doctor's prescription. Common causes of drug abuse include: - inadequate knowledge of prescribed medications, inadequate training and inadequacy of proper medical facilities, and an effective treatment program.

FDA requires drug companies to collect data on adverse reactions. Some industry benefits, such as reduced liability for injuries resulting from life-threatening medication errors, have been attained; but scrutiny by the public is still needed to ensure it occurs until it can be adequately evaluated. Practitioners face a variety of challenges in prescribing, including inadequate time to provide complete care; limited knowledge about the benefits and risks of medicines; medication errors; lack of access to medical records; and problems with access to health services.

The WHO has recommended that developing countries improve access to medicines and ensure the availability of affordable and effective quality-assured medicines in the public sector and step-up efforts to ensure that positive health outcomes are achieved. To make this possible, developing countries must ensure that policies and programs addressing their problems are implemented.

Lack of adequate information about the prescribed medications is a common reason for the irrational use of medicines. Another common cause of irrational medicine use is the prescription of unnecessary and potentially harmful medicines. The large number of individuals who don't understand how to use medicines has resulted in a high number of unnecessary hospital visits and a large cost to the healthcare system.

The worldwide problem of irrational medicine use, which has been documented for over a century, is a significant public health problem. Particularly in emerging markets, expanding

access to medicines should be a high priority. Medicines should also be affordable, accessible, safe, and effective.

LITERATURE REVIEW-

1. <https://joppp.biomedcentral.com/track/pdf/10.1186/s40545-016-0074-6.pdf>
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4413077/pdf/jcdr-9-FC01.pdf>
3. <https://pubmed.ncbi.nlm.nih.gov/25954629/>
4. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6432812/>
5. https://www.researchgate.net/publication/276065501_Analysis_of_Out_Door_Patient_s'_Prescriptions_According_to_World_Health_Organization_WHO_Prescribing_Indicators_Among_Private_Hospitals_in_Western_India
6. <https://ijmrr.medresearch.in/index.php/ijmrr/article/view/728>
7. <https://ijmrr.medresearch.in/index.php/ijmrr/article/view/728/1312>
8. <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-017-2097-3>
9. <http://njppp.com/fulltext/28-1493266331.pdf>
10. <https://www.hindawi.com/journals/bmri/2020/3809157/>
11. <https://www.ijph.in/article.asp?issn=0019-557X;year=2018;volume=62;issue=2;spage=156;epage=158;aulast=Hussain>
12. Finkel R, Clark MA, Cubeddu LX. Lippincott's Illustrated Reviews: Pharmacology. 4th ed. Baltimore: Lippincott Williams & Wilkins; 2009.
13. Rational Use of Medicines by Prescribers and Patients. Geneva: World Health Organization; 2005. Available from: <http://www.apps.who.int/WHOIRIS/Headquarters/Governingbodies/EB115>. [Last assessed on 2017 Mar 10].
14. WHO. World Health Organization Promoting Rational Use of Medicines: Core Components. WHO Policy and Perspectives on Medicine No. 5. Document WHO/EDM/2002.3. Geneva: WHO; 2002.
15. Introduction to Drug Utilisation Research@WHO. Definitions and Domains; 2003. p. 8. 5. Akoria OA, Isah AO. Prescription writing in public and private hospitals in Benin City, Nigeria: The effects of an educational intervention. Can J Clin Pharmacol. 2008;15(2):e295-305.

RESEARCH PROBLEM-

Prescribing of irrational medications to the patients.

RESEARCH METHODOLOGY

The study was conducted by collecting instructions from hospitals and drug stores in Delhi. All instructions were analysed to obtain general information, medical components, and guidelines for WHO drug use. The data obtained was summarized and presented as descriptive statistics using Microsoft Excel and analysed. Each prescription was analyzed for the WHO Indicators.

Measuring the Prescribing indicators-

The WHO descriptive indicators were first tested and minor adjustments were made to the Indian context before being used in this study. Data were analyzed to determine hospital delivery patterns using WHO guidelines.

A doctor's prescription is an important tool for quality assurance about the reasonable use of medicines. WHO's key indicators of decision-making processes measure the significant measures related to the proper use of drugs. Therefore, this study was aimed at analyzing the decision-making guideline that would help promote sound drug use in order to improve the quality of treatment provided.

The WHO prescribing indicators-

1. Average number of drugs per encounter
2. Percentage of drugs prescribed by generic name
3. Percentage of encounters with an antibiotic prescribed
4. Percentage of encounters with an injection prescribed
5. Percentage of drugs prescribed from the essential drugs list (EDL) or formulary.

1. The average number of drugs prescribed per encounter- The ratio of the number of drugs determined by each combination was calculated by poly-medication, which is a major factor contributing to adverse drug reactions (ADRs) and drug interactions (DDIs). Calculated by dividing the total number of drug products determined by the number of compounds tested. The combination of drugs prescribed for one health problem was counted as one.

2. Percentage of drugs prescribed by generic name The percentage of generic drugs calculates the number of orders for which drugs are prescribed by the generic name. This helps to control the cost of medicines in the health service. It also assesses the effect of marketing on a person who describes drugs

It is calculated by dividing the number of drugs prescribed by the common name by the total number of drugs prescribed, multiplied by 100.

3. The percentage of interactions in which a prescribed antibiotic is calculated to measure the total use of the most commonly used over-the-counter drugs. It examines the overuse of antibiotics that contribute to the spread of germs and resistance.

It was calculated by dividing the number of patients in which the lethal drug was determined by the total number of combined experiments, multiplied by 100.

4. Percentage of encounters with an injection- This indicator helps diagnose excessive injections, the use of which can have serious consequences when prescribed or improperly used, such as when there is an anaphylactic reaction, adverse reactions, necrosis, etc. is calculated by dividing the number of patients where the injection is determined by the total number of tested intervals, multiplied by 100.

5. Percentage of drugs prescribed from an Essential Medicines List (EML) The percentage of the drugs listed in the Essential Drugs (EML) was calculated to measure the processes associated with the national drug policy as indicated in the MGH list. The percentage is calculated by dividing the number of prescribed products in the list of essential medicines by the total number of prescribed drugs, multiplied by 100.

Percentage of prescription drugs = (Number of prescription drugs / Total prescription) × 100.

Percentage of drugs prescribed from essential drugs list = (Number of drugs prescribed from essential drugs list/Total number of prescribed drugs) × 100.

Data analysis

All data in the data collection form were analysed using Microsoft Excel.

50 prescriptions were collected at various hospitals and medical stores in Delhi. It is assumed that part of the above text of the doctor's letter such as hospital name, hospital address, doctor name, patient name, doctor's delivery date was stated in all doctor's instructions (100%) while all documents did not include gender, age and gender. patient address. On registration part of the volume summary form e.g. Tablet 'T', 'Inj' injection used throughout (100%) prescription. It was noted that the dose of the drug was not fully recorded in 92% of the instructions e. 100 to 100 mg. The duration of treatment is not limited to 72% of the instructions. In the written section, the method of drug use was not properly addressed in 74% of the instructions. It was noted that the medical records were signed by the explanatory doctors in all the medical records (100%) but their medical council registration number was not specified (100%). It was noted that the diagnosis was reported in 37% of the doctor's prescription and 89% of the instructions were illegible.

Analysis of drugs

Drug analysis revealed that antibiotics, analgesics, antacids and vitamins consumed 67% of the medication which was written by the Registered medical practioner. Cough syrup and anti-diabetic drugs prescribed 6% and 16% of prescribed medications respectively. Some 26% of prescription drugs contained skin cream, anti-anginal, antihypertensive, lipid lowering agents, diuretics etc.

Ordinary prescriptions have been low which contradicts the statement that India is one of the largest suppliers of generic medicines in the world.

Most common reasons due to which the doctor prescribed the medications were-

- a. Doubts about the efficiency and bioavailability of the generic structure.
- b. The authors' adherence to the hospital formula and the drugs given to the pharmacy.
- c. Claims of pharmaceutical companies about high performance and brand name and stable combination of the drug.

In addition, this study revealed that physician errors are common in private hospitals. Therefore, to teach representatives to minimize instructional errors through seminar, conference, workshop. There should be a joint training of pharmacists and doctors to reduce physician errors. Most errors can be corrected by using a computerized letter at the hospital. Antibiotics and antacids have been commonly prescribed in our study and can lead to drug resistance and increased health burden. Therefore, strict control of antibiotic policy in outpatients in private hospitals is required with the availability of antibiotic policy in each physician in order to better treat patients and increase the reasonable use of antibiotics.

Conclusion- Research shows the need to set guidelines by policy-making organizations that guide the practices of all physicians and medical practitioners registered in India. The rules are explained, but the practice still hasn't changed which is a sad part of the story. Strict guidelines should be followed with caution, and with physician adherence leading to better health care services, appropriate decision-making processes cannot be guaranteed in this part of India.