

SYNOPSIS

Assessment of Drug Prescribing Pattern Using World Health Organization Indicators in a Tertiary Care Teaching Hospital

Introduction: -

Irrational drug use is a global concern, leading to inefficacy, adverse effects, and increased healthcare costs. To promote safe and effective prescribing practices, the World Health Organization (WHO) has developed core prescribing indicators. These indicators assess various aspects of drug use, including medication selection, quantity, and route of administration. This study aims to evaluate the drug prescribing patterns in a tertiary care teaching hospital using the WHO core prescribing indicators. By analysing data on the average number of medications per encounter, use of generic names, essential medicines, antibiotics, and injections, we will identify areas for improvement and promote rational drug use within the hospital setting.

This investigation is crucial for ensuring optimal patient care, reducing healthcare costs, and promoting responsible antibiotic stewardship in a tertiary care environment.

Research Questions: -

1. To what extent does the drug prescribing pattern in this tertiary care teaching hospital adhere to the World Health Organization (WHO) core prescribing indicators?
2. What percentage of medications are prescribed by generic name?
3. What proportion of prescribed medications are included in the hospital's essential medicines list (EML) or the WHO Model List of Essential Medicines (EML)?
4. What is the percentage of encounters with antibiotic prescriptions?
5. What is the percentage of medications prescribed as injections?

Objective: -

1. To assess the current drug prescribing patterns in the hospital against the World Health Organization (WHO) core prescribing indicators. This includes evaluating metrics.
2. To identify areas for improvement in prescribing practices based on the findings of the WHO indicator assessment.

Materials and method: -

- Study Design: **cross-sectional observational study.**
- Define the sample size needed for statistically significant results.
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- Describe the method of selecting prescriptions for analysis.

Specify the data sources for prescription information. This might involve:

- Reviewing electronic medical records (EMR) systems.
- Manually collecting data from paper prescriptions.

Develop a data collection tool (e.g., a standardized form) to capture information on each prescription.

- Date of encounter.
- Prescribing physician.
- Medication name (brand and generic).
- Dosage and frequency.
- Route of administration (oral, injection, etc.).
- Whether the medication is included in the hospital's EML or WHO EML

Data Analysis Plan: -

This analysis plan outlines how the collected data on drug prescribing patterns will be analyzed using the WHO core prescribing indicators.

Calculate the mean, median, and standard deviation of the average number of medications prescribed per encounter to assess potential OPD pharmacy.

- Determine the percentage of medications prescribed by generic name to evaluate cost-effectiveness.
- Calculate the proportion of medications included in the hospital's Essential Medicines List (EML) and the WHO Model List of Essential Medicines (EML) to assess adherence to core medications.
- Analyse the percentage of encounters with antibiotic prescriptions and injections to evaluate appropriate use.

Specify the statistical software you will use for analysis (e.g., SPSS, STATA).

Ethical Considerations: -

- **Patient Confidentiality:** Ensure all patient data is anonymized and protected throughout the study. De-identified codes can be used to reference prescriptions while maintaining patient privacy.
- **Data Security:** Store data securely using password-protected systems and limit access to authorized personnel only.
- **Informed Consent (if applicable):** If patient demographics are collected (even anonymously), consider obtaining informed consent to ensure transparency and respect for patient autonomy.

Implications: -

Identifying and addressing overprescribing or underuse of medications can lead to more effective and safer treatment plans for patients. Promoting adherence to essential medicines lists (EMLs) can ensure patients have access to the most crucial and cost-effective medications for their conditions. Encouraging the use of generic drugs can significantly reduce healthcare costs for both the hospital and patients. Identifying areas where unnecessary medications are prescribed can help optimize resource allocation within the hospital.

Reference:

1. World Health Organization. (2013). Promoting rational use of medicines: Core modules for training health workers
2. World Health Organization. (2019). WHO Model List of Essential Medicines (21st List).
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4. Gavhane, S. B., Patil, S. S., & Wani, M. R. (2014). Assessment of drug prescribing pattern using WHO indicators in a tertiary care hospital. *Indian Journal of Basic and Applied Medical Research*, 4(1), 122-126.
5. Hughes, D. A. (2008). World Health Organization indicators for assessing prescribing in hospitals. *British journal of clinical pharmacology*, 65(4), 444-452.