

ASSESSMENT OF DRUG PRESCRIPTIONS AT A PRIVATE PHARMACY STORE USING WORLD HEALTH ORGANISATION PRESCRIBING INDICATORS

Dissertation submitted to



The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree of

Master of Business Administration (MBA)

in

Pharmaceutical Management

by

AYUSHI SEETHA

Under the Supervision and Guidance of

Dr. ASHOK PEEPLIWAL

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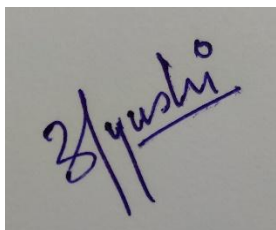
Under the Supervision and Guidance of

Dr. Ashok Peepliwal

2022

DECLARATION BY STUDENT

I hereby declare that this dissertation titled “ASSESSMENT OF DRUG PRESCRIPTIONS AT A PRIVATE PHARMACY STORE USING WORLD HEALTH ORGANISATION PRESCRIBING INDICATORS” is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

A handwritten signature in blue ink, appearing to read 'Ayushi Seetha', is written on a light gray background.

Ayushi Seetha

Date: 26-06-2022

CERTIFICATE

This is to certify that dissertation titled **ASSESSMENT OF DRUG PRESCRIPTIONS AT A PRIVATE PHARMACY STORE USING WORLD HEALTH ORGANISATION PRESCRIBING INDICATORS** is a record of the research work undertaken by **Ayushi Seetha** in partial fulfilment of the requirements for the award of the degree MBA (Pharmaceutical Management) from the IIHMR University, Jaipur under my guidance and supervision and his/her approach to the research study has been sincere, scientific, and analytical.

Faculty Guide

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Date:

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Date:

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INTRODUCTION

Prescriptions are utilized to examine the normal number of medications for each treatment, several experiences along anti-infection agents, level of medications endorsed by conventional name, fixed portion mixes, and whether the measurements' structure, recurrence of organization, and length of treatment were level-headed or not.

The recommending of medications is a necessary piece of the arrangement of wellbeing and addresses a somewhat protected, viable, and economical method of treatment. Underdeveloped nations burn through 30-40% of their complete wellbeing financial plan on drugs, a considerable lot of which are recommended unreasonably. These nations twofold their use on drugs at regular intervals while the GNP (Gross National Product) pairs like clockwork.

To ensure that the money spent on pharmaceuticals is used effectively, it is crucial to periodically review how prescriptions are written and administered to identify any errors and look for solutions. Since prescription is the most well-known form of medical care intervention, medication errors are probably the most well-known types of clinical blunders. Errors might occur during treatment, organizing, recording, or pharmaceutical administration. Like endorsing, mistakes of commission and supervision have been described. Incorrect facts are present in blunders of commission, whereas mistakes of exclusion occur when a solution is lacking in some way.

If prescribers know when and where mistakes destined to happen is for the most part felt to be the initial phase in attempting to forestall these blunders. Different investigations have depicted prescription blunders in tertiary consideration clinics. Rather than emergency clinic practice where data is effectively accessible, the circumstance in local area practice is extraordinary. The social class drug expert has a confined permission to information related to a patient's clinical profile and exploration focus tests. In this manner, it is hard for a medication expert to use his coherent judgment because of divided or inaccurate arrangements.

One large study found that potentially harmful medication errors may be many times more common in children than in adults. Several widely disseminated publications confirm that prescription errors are common in paediatrics. This proves that there may be differences in the epidemiological characteristics of prescription errors in adults and children. If medications that address important restorative improvements in adults are not tested and approved for pediatric use, children's remedial needs will likely not be satisfied. When a drug becomes accessible to adults, it is possible to use it inadvertently in teens. The use of illegal and off-label drugs for children has therefore been widespread for a very long time; this does not provide youngsters with a comparable experience.

The primary model list of essential pharmaceuticals for children (under 12 years old) was released in October 2007 to help with the wise prescribing of prescriptions in pediatric age. When in doubt, it is intended to stand in for prudent prescription in this age group..

Thinking about the fundamental part of medication writing pattern of doctors, the current examination was led to consider examination pattern and mistakes in solutions introducing to four local area drug stores across Bhopal city, and to analyze the prescription flaws rates across prescriber profiles.

Normal utilization of medication improves patient's personal satisfaction. Exorbitant and improper solutions bring about serious outcomes. The investigation of medication use examples and solution blunders is important to advance normal medication use in non-industrial nations. The point of the investigation was to assess remedy practice and help to the quality utilization of medication.

LITERATURE REVIEW

- According to “the rational use of drugs” report of the conference of experts. WHO Geneva: Unreasonable utilization of medicines is a significant issue around the world. WHO gauges that the greater part of all medicines is recommended, apportioned, or then again sold improperly, and that all patients overlook their ability to successfully take them? The misuse, underuse, or abuse of medications results in the waste of scarce resources and grave risks to one's health. Examples of drug use that is senseless include the use of of such many medicines in accordance with patient ("poly-pharmacy"); uncalled-for usage of antimicrobials, routinely in inadequate estimations, for non-bacterial defilements; over-use of imbuements when oral subtleties would be really fitting; failure to suggest according to clinical standards; ill-advised self- remedy, habitually of arrangement just prescriptions; non-adherence to dosing regimens.
- Holloway K, et al stated that level-headed utilization of drugs includes their right/legitimate/appropriate utilize with the goal that their choice, portion, length is as per the rules, appropriate for clinical necessities, at the least expense for the supplier, local area, plus the ill-person, and are administered accurately plus consumed correctly. The correct medication of best quality, wellbeing and viability ought to be accessible, moderate, and promoted accurately and the foundation ought to be suitable for the person and the local area. Integral provisions like capable utilization of medications, endorsing effectively have additionally been utilized by some rather than 'sane use'. In the event that the utilization of medication is not according to these circumstances, it is believed as nonsensical or inaccurate, ill-advised, and unseemly use. It is assessed that the utilization of part of the meds is ill- advised in remedy, administering, retail or organization and non-according to rules in 30 to 40 percent patients from personal or in the public domain area.
- Muhammad Atif, Muhammad Azeem, Muhammad Rehan Sarwar, Samia Shahid, Sidra Javaid, Huria Ikram, Uzma Baig & Shane Scahill WHO/INRUD prescribing indicators and prescribing trends of antibiotics in the Accident and Emergency Department of Bahawal Victoria Hospital, Pakistan. This study's objective was to evaluate the prescription habits at the Bahawal Victoria Hospital (BVH), Bahawalpur, Pakistan's Accident and Emergency (A & E) department. In this same perspective, we also

report on the trends in antibiotic use. The findings of this study may help hospital administrators create and put into practice relevant measures to enhance rational medication prescribing in the BVH's A&E department. Other hospitals that are rumored to have comparable drug use policies may also be able to benefit from the study's findings.

- S. Nakwatumbah, D. Kibaale, B. Godman, V. HaakuriaSchool and A. Baker et.all Compliance to guidelines for the prescribing of antibiotics in acute infections at Namibia's national referral hospital: a pilot study and the implications. NSTG compliance is not at its best. Combination antibiotic prescriptions, penicillins and the diagnosis of ear, nose, and throat infections were all significant indicators of NSTG compliance. To enhance future antibiotic prescribing in Namibia, it is necessary to create antibiotic indicators and stewardship programs and ensure access to NSTGs.
- John Chalker, improving antibiotic prescribing in Hai Phong Province, Viet Nam: the “antibiotic-dose” indicator. to increase the frequency and dosage of antibiotics prescribed at Commune Health Stations in Vietnam, and to do so, determine if antibiotic dosage can be accurately measured as a drug-use indicator.
- Ambili Remesh, Samna Salim, A. M. Gayathri, Uma Nair, K. G. Retnavally, Antibiotics prescribing pattern in the in-patient departments of a tertiary care hospital. The importance of doctors prescribing antibiotics has increased globally, largely due to rising antibiotic usage, the prevalence of illnesses, and drug resistance.
- Megan Rose Williams, Giles Greene, Gurudutt Naik, Kathryn Hughes, Christopher C Butler, and Alastair D Hay. Antibiotic prescribing quality for children in primary care: an observational study. Antibiotic resistance is being fueled by antibiotic overuse and incorrect prescribing. Despite their limited benefits, GPs frequently prescribe antibiotics for upper respiratory tract infections (URTIs) in young children to evaluate the effectiveness of antibiotic prescriptions for typical infections given to young patients in primary care and to look into potential influencing factors.
- Jeetendra Kumar, MM Shaik, MC Kathi, A deka and SS Gambhir. Prescribing indicators and pattern of use of antibiotics among medical

outpatients in a teaching hospital of Central Nepal. By analyzing prescriptions using prescribing indicators, we can identify certain prevalent prescribing issues and concentrate our subsequent efforts on fixing them. The goal of this study was to describe the volume and pattern of drug prescriptions among medical outpatients at the teaching hospital of the College of Medical Sciences in Bharatpur, Nepal, with a focus on antibiotics. The information on a sample of original prescriptions written by patients who visited the medical OPD between January 2008 and June 2008 was collected prospectively on duplex prescriptions, and the information was then evaluated. 339 patients received 955 prescriptions for various medications. 2.81 medications were used on average during each contact. 20.31 percent of the pharmaceuticals prescribed were by generic name, and 49.63 percent of them were on the national essential drugs list. Antibiotic usage was 43.95 percent of the time.

- Graciela Maria Calle, Juan P. Garrahan, Julia Clark, Celia Cooper et.al The Worldwide Antibiotic Resistance and Prescribing in European Children (ARPEC) point prevalence survey: developing hospital-quality indicators of antibiotic prescribing for children. Adult cross-sectional antibiotic point prevalence surveys (PPSs) have been utilized in the past to create quality improvement indicators. Our goal was to assess the viability of creating comparable quality indicators of better antibiotic prescribing, with a particular focus on hospitalized neonates and kids around the world.
- Ambili Remesh, Samna Salim, A. M. Gayathri, Uma Nair, K. G. Retnavally. Antibiotics prescribing pattern in the in-patient departments of a tertiary care hospital. Due to rising antibiotic consumption, the prevalence of illnesses, and the development of drug resistance, doctors now place more priority on administering antibiotics. Goals This study evaluated the use of antibiotics, their compliance with the list of important medications, the diseases for which they were prescribed, and their negative consequences.

OBJECTIVES

To analyze the prescription at a private pharmacy store.

METHODOLOGY

- Type of research: Primary research
- Study: Descriptive study
- Duration: March 22 to June 19,2021
- Data analysis: The data analysis in the present study is done by using simple statistical tools like frequencies, percentage, average etc are used as per the requirement of data. In this study, appropriate statistical study tool used is EXCEL.
- Sample size: 300 prescriptions
- Data collection: Data collected from private pharmacy in Bhopal and Khandwa (M.P)

RESULTS AND DISCUSSIONS

1. Average number of drugs prescribed per prescription:

Figure 1 Average Number of drugs prescribed per prescription.

This research contains the analysis of 301 prescription in which it is found that 74.4% doctors prescribe around 4-6 drugs, 21.6% doctors prescribe between 1-3 drugs per prescription, 2.3% and 1.7% doctors prescribe around 7-9 and more than 9 drugs, respectively.

2. Antibiotics prescribed by doctors per prescription:

Figure 2 Antibiotics prescribed by doctors per prescription.

On analysis of the targeted prescriptions, it is found that yes 11% doctors prescribe antibiotics on every prescription, 24.3% doctors do not prescribe

antibiotics on every prescription and after detail finding we found 64.8% doctors prescribes antibiotics on severity of disease of patients due to antibiotic resistance.

3. Class of antibiotics prescribed per prescription:

Figure 3 Class of antibiotics prescribed per prescription.

As this study was conducted during covid crisis so it is that found macrolide such as azithromycin and erythromycin as highly prescribed antibiotics. Aminoglycosides are found to be prescribed with minimal range on 125 prescriptions and then comes the tetracyclines which are rarely prescribed nowadays.

4. Drugs are prescribed as brand name or API name:

Figure 4 Drugs are prescribed as brand name or with API name?

After analysing 301 prescriptions, this survey shows 88.4% doctors prescribed with brand name and only 11.6% doctors prescribe API name.

5. Common drugs prescribed within all prescriptions:

Figure 5 Common drugs prescribed within all prescriptions.

Among 3 common categories, Antibiotics are most prescribed with 88.7% weightage, NSAIDS like paracetamol, aceclofenac with 77.1% weightage and at last PPI like pantoprazole, rabeprazole with 25.6% percentage.

6. Number of days doctors prescribe medications:

Figure 6 Average number of days doctors prescribe medications.

On analysis it is found 57.1% doctors prescribe medication for 15 days which is the highest among the days to be re-visit. 35.9% doctors prescribe medication for 5-10 days, 6% doctors prescribe medication for 1 month and 1% doctors prescribe for more than a month.

7. Side effect occurs after consuming certain medication:

Figure 7 Side effect occurs after consuming certain medication.

After analysing several patients feedback, it is found that 87.7% sometimes suffers from side effects and 8.3% patients mostly goes through side effects and these includes any allergic reactions, nausea, vomiting and inflammation. Out of 301 responses, this study reveals that 4% never goes through side effects by taking certain medications.

8. Combination drugs prescribed by doctors per prescription:

Figure 8 Combination drugs prescribed by doctors per prescription.

During assessment of prescriptions, it is found that yes 62% of the doctors prescribe combination drugs and 10% doctors do not believe in prescribing fixed dose combination drugs.

9. Use of drugs by doctors which are under NLEM (National List of Essential Medicines)

Figure 9 Use of drugs by doctors which are under NLEM (National List of Essential Medicines).

This survey reveals that most of the drugs which are prescribed comes under NLEM that out of 301 prescription 256(85%) drugs comes under essential list of medicines.

CONCLUSION

- This study of prescription analysis gives us the thorough knowledge of prescribing habit of doctors.
- After survey of 301 prescriptions, most doctors prescribe 4-6 drugs in which most of them prescribe antibiotics with different categories within this antibiotic category such as macrolides (azithromycin) was highly dominating over other categories among all prescription. Antibiotics were included in almost 240 (80%) prescription.
- Counselling by brand name was practically common and API name were of just 35 (11.6%) drugs. The recommending design likewise showed polypharmacy which means almost 74.4% prescription contain 4-6 drugs per prescription.
- Common drugs which were prescribed were antibiotics, NSAIDs and PPI (such as pantoprazole).
- Almost 58% prescription were prescribed with 15 days treatment. Analysis of aftereffects of medications, 8.3% shows minor side effects.
- Mainly doctors prefer prescribing combination/fixed dose combination drugs with majority of 62% and 10% doctors never prescribe combination drugs.
- Drugs which come under NLEM are highly prescribed by doctors with majority of 85% as they are scheduled under NPPA and DPCO.

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