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ASSESSMENT OF DRUG PRESCRIBING PATTERN IN THE INPATIENT SURGERY DEPARTMENT AT A TERTIARY CARE TEACHING HOSPITAL USING WHO PRESCRIBING INDICATORS

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Keywords: *essential medicine list, prescribing pattern, generic name, WHO indicators.*

Abstract

Background: Drug use is a tricky task comprises of prescriber, dispenser and the patient. It is influenced by factors such as prescribing experience, drug cost, availability, dispenser knowledge and patient cultural belief.

Objective: Current study aim is to assess the drug prescribing pattern in the inpatient ward of the surgery department at tertiary care teaching hospital using WHO prescribing indicators.

Material and Methods: A prospective observational study was carried out after the approval from the institutional ethical committee for a period of six months from February 2019 to July 2019. Data were collected, evaluated and represented using descriptive statics and graph wherever applicable.

Result: Total of 190 prescriptions were collected and analyzed using WHO prescribing indicators. An average number of the drug was 5.23%. The percentage of the drug from essential medicine list, generic name and Injectables prescribed was 46.93%, 17.68% and 53.16% respectively.

Conclusion: Labelling status of prescribing was not according to standards of WHO prescribing indicators and needs special attention. Such study plays a crucial role in the institution level and helps in preparation of evidence-based modules for rational use of drugs.

Introduction

Drug utilization evaluation is an ongoing criteria-based evaluation at an individual patient level that make sure the proper drug usage in rational ways.[1] In case of inappropriate therapy, intervention provides to both patient and prescriber as required. DUE process arranged in a manner that it will cover all the aspect of drug prescribing, dispensing and administration.[2]

Different prescribers have different knowledge and different strategy to treat patient. Sometimes this will leads to an extra and irrational drug prescribing. The study of prescribing pattern infers to suggest and evaluate practitioner's prescription habits, so as to make therapy effective and reasonable for the patients.[3, 4]

World health origination has developed core prescribing indicators for the assessment of prescribing pattern of drugs.

Total of five indicators listed by WHO.[5]

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

Each indicator deals with a specific problem associated with the drug prescribing and patient condition. Issues identified on assessment are overuse of the drug, irrational prescribing, cost of therapy, number of Injectables and many more.[6]

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Material and methods

Study Site: This study was conducted at NIMS Hospital, Jaipur Rajasthan under inpatient ward of the surgery department. This hospital provides specialized health care facilities to people in and around the Jaipur.

Inclusion Criteria: Age:-18 year and above, Gender:-Male and Female, IPD patients and Patient who are willing to participate.

Sample Size and Statistical Analysis: Total of 190 prescriptions was taken into study. Data was analyzed and represented using descriptive statics in the form of graph were able applicable.

Ethical Consideration: The study was carried out from February 2019 to July 2019 after due permission from the Institutional Ethics Committee.

Results

Total 190 prescriptions was collected and recorded in data collection form. Percentage of drugs in male surgery ward was 512 (51.45%) while 483 (48.55%) were in female surgery ward as show in Fig. 1.

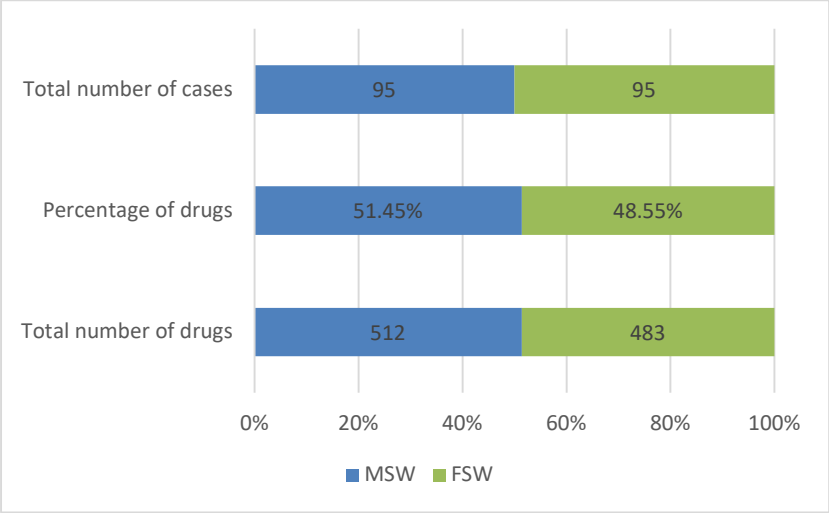

Fig. 1: Total number of cases from male and female surgery ward with total number and percentage of drugs.

Age Distribution

Higher number of patients were found in 41-60 age group i.e. 68, followed by 53 patient in 61-80 age group, 50 in 21-40 age group, 16 in ≤20 age group and 3 patient in ≥81 age group. As show in Fig. 2.

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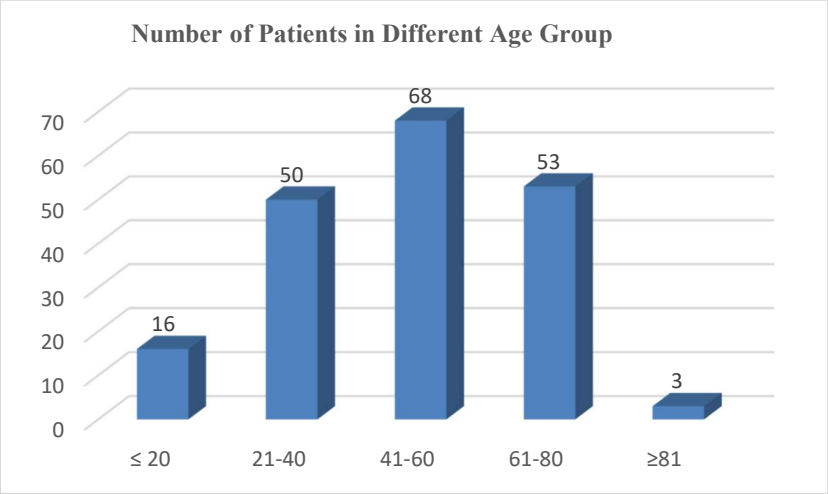

Fig. 2: Age Distribution

Number of drugs in prescription

Different number of drugs were prescribed to patient on the basis of diagnosis. 114 prescription were in range of 4-6 drugs followed by 7-10 drugs in 46 prescription and 1-3 drugs in 30 patients as show in Fig. 3.

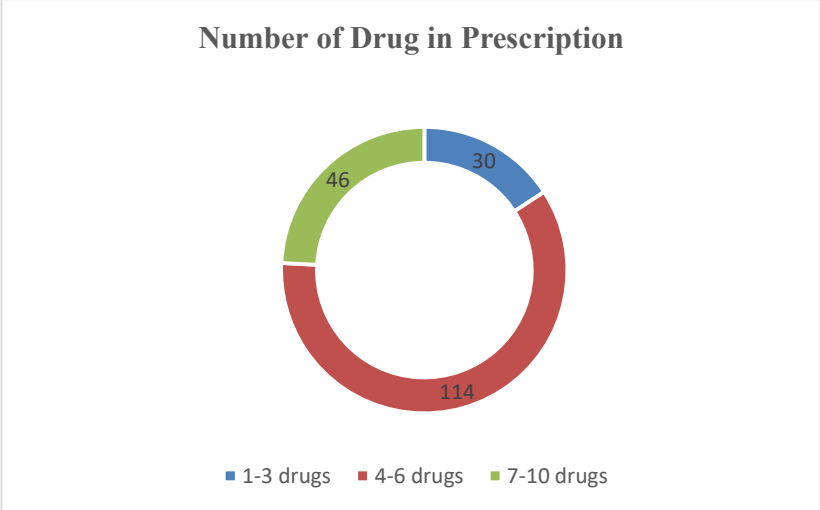

Fig: 3: Number of drugs in prescription

Prescribing indicators

Average number of drugs per encounter was 5.23 followed by Percentage of drugs prescribed by generic name 17.68%, Percentage of encounters with an injection prescribed 53.16% and Percentage of drugs prescribed from essential drugs list or formulary 46.93% as show in Fig 4 and 5.

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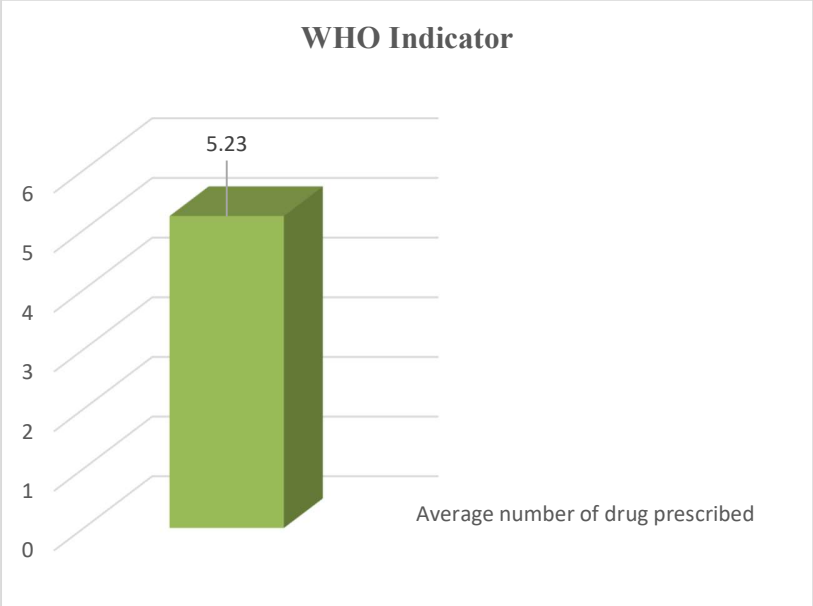

Fig. 4: Average no. of drugs per encounter

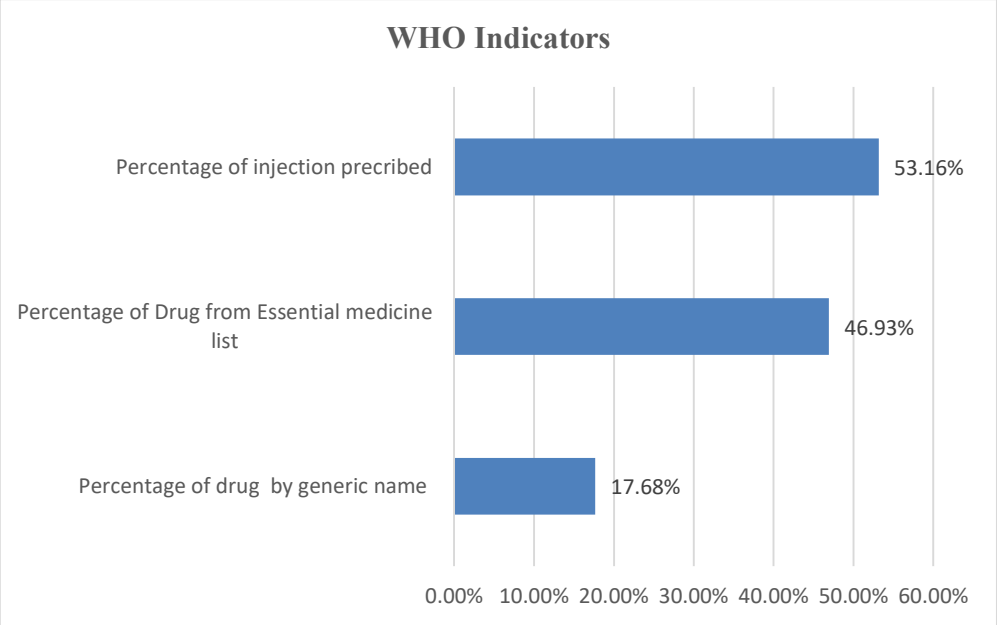

Fig. 5: percentage of different WHO indicators

Route of administration preferred

Parenteral was the most preferred route with 53.16% followed by oral 43.03%, nasal 2.41% and topical 1.40% as shown in Fig. 6.

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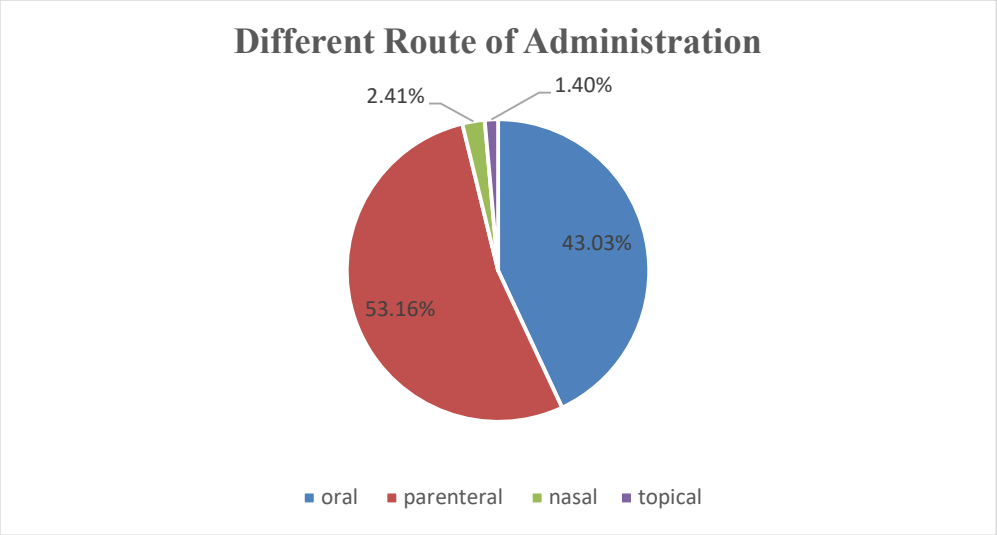

Fig. 6 – Route of administration

Discussion

Early recognition of the disease and the preventive measures with correct treatment were proven to have a remarkable and significant effect on patient condition. To ensure the rational use of drug periodic auditing plays an important role to understand the current trend and habit of drug prescribing. It allows weather to go for up-gradation or need to make a change in current practice.

In our study, the average number of drugs per prescription was found to be 6.02, but the range was from 2-13 drugs. This study was similar to the study conducted by Pathak A. et al.2016 [7], and Narendra p. et al.2017 [8], i.e. 5.11 and 5.20. This value was higher than the study conducted by Ulhas K. et al.2014[9], Hussain S. et al.2018[10], Farzana S. et al.2015[11], Durga P. et al.2017[12], Singh G.et al.2018[13] and Bansal A. et al.2017[14] which was around 1.84, 2.91, 4.89, 3.45, 3.41 and 2.15.

Percentage of drug prescribed by generic name was found to be 17.68% which was lower than the study conducted by Pathak A. et al.2016 [7], Durga P. et al.2017 [12], Singh G.et al.2018 [13] which was around 89.88%, 97.7%, and 49.02%. The value was higher than the study conducted by Narendra P. et al.2017[8], Ulhas K. et al.2014[9], Hussain S. et al.2018[10], Farzana S.et al.2015[11] and Bansal A. et al.2017[14], I .e.13.88%, 0.05%, 10.05%, 0%, and 2.4%.

Percentage of drug prescribed from the EML (essential medicine list) was found to be 46.93% which was higher than the study conducted by Pathak A. et al.2016 [7], Hussain S. et al.2018 [10] and Durga P. et al.2017 [12] which was found to be 23.04%, 22.57% and 24.3. The value was found to be lower than the study conducted by Narendra P. et al.2017[8], Ulhas K. et al.2014[9] and Bansal A. et al.2017[14] i.e. 72.36%,99.67% and 96.5%.

The percentage of injection prescribed was found to be 53.16%. This was found to higher than the study conducted by Pathak A et al.2016[7], Ulhas K. et al.2014.[8], Hussain S. et al.2018[10], Farzana S. et al.2015[11], Durga P. et al.2017[12], Singh G.et al.2018[13] and Bansal A. et al.2017[14] i.e. 24.05% ,18 %, 2.20bv 17.18%,7.76%,4% and 0.9%. The value was lower than the study conducted by Narendra P. et al. 2017[8] which was found to be 93.50%.

Conclusion

Prescribing practice observed in this study was unsatisfactory which shows an essential need to assess drug prescribing behaviour objectively at all level of medical professionals in the department periodically. Such study helps in evidence-based preparation of modules for rational use of drugs at an institutional level. Introduction to modules and guidelines will directly impact on the prescriber's behaviour and patient care. Proper implication leads to better therapy

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outcomes and it will also restore the faith of patient in the health care system. Strong recommendation for the implication of clinical pharmacist in the health care team for the supervision of prescribing drugs to patients. It ensures the drugs will prescribe accordingly.

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