



A PROSPECTIVE OBSERVATIONAL STUDY AND DRUG USE EVALUATION IN POST- OPERATIVE PATIENTS WITH ANALGESICS AND ANTIBIOTICS USED IN SURGICAL WARDS OF A TERTIARY CARE HOSPITAL

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ABSTRACT

Drug Use Evaluation is a method that focuses on improving and evaluating medication use processes with goal of improving outcome of patient. Most of the Drug Related Problems such as Adverse Drug reactions, Drug non-compliance can be prevented by Drug Use Evaluation Program. To Evaluate the Drug use evaluation of Analgesics and Antibiotics used in surgical wards of tertiary Care Center. **Materials and methods:** **Study design:** - Our study was hospital based prospective observational study conducted in a tertiary care hospital. **Study population:** - The study was done in the department of surgical wards. **Study procedure:** - The study was done by collecting information by using patient case sheets, based on the data a questionnaire prepared. Nearly data of 3600 patients were collect which include case history, demographic details and reason for admission, PMH, laboratory parameter and drug dose regimen with frequency were collected. **Sampling method:** - All the patient of age below 21-52 who is using analysis and antibiotic, who are willing to give consent, was included in the study. The surgical wards were visited four days in a week and information was called for the study and analyzed. **Study duration:** - The duration of the study was 9 months from Nov 2016 to July 2017. **Results:** A total of 360 patients who had undergone surgery were admitted in the surgical wards. Out of which 207 males and 153 females, the most frequent affected age group was 21 to 52. In this 54% were married and remaining are students. Out of this all patients received antibiotics and analgesics as well. The prescriptions are irrational due to the treatment is giving in multiple times for pain. So many interactions are identified during study with analgesics and antibiotics prescribed. **Discussion:** Out of 360 patients were of age group between 21 to 52, the most of the people admitted were males 207(57.50%) and females(42.70%), the most affected age group is 18 to 52, out of 360 patients married were 57.50% and unmarried were 42.70%, the educational level of the patients were secondary 162 (45%) and nutritional levels are below poverty all are poor 162(45%), the analgesics prescribed were diclofenac 153(42.50%), tramadol 153 (42.50%), aceclofenac 108(36%) and least analgesics prescribed were paracetamol 20% and antibiotics were ceftriaxone 207 (57.5%), cefpodoxime 162(45%) and the least antibiotic was Gentamycin and the reason for admission was mainly due to orthopedic surgery and trauma, the maximum number of antibiotics and analgesics prescribed per day are 1 and for serious conditions its is prescribed up to 4 with clear monitoring, to overcome the gastric irritations proton pump inhibitors are prescribed. The patients have not have effective in treatment and maximum patients felt as average. The side effects of the drugs are observed and it's mainly of constipation no serious side effects are observed and the drugs evaluation by the physician and advices are very much less and physicians are also not available all the time. **Conclusions:** Our study concluded that most of the surgeries are due to accidents or injuries during work. So, there is a great need for the adoption of various strategies to prevent/Minimize the inappropriate use of antibiotics and analgesics in order to improve the Quality of Medicines as much to reduce the number of significant interactions. By the guidance of clinical pharmacist we can reduce the interactions and also enhances the better outcome of patient.

KEYWORDS: Diclofenac, tramadol, aceclofenac.

INTRODUCTION

Drug use evaluation is as method that focuses on improving and evaluation medication use process with goal of improving outcome of patient. Pain is the most common symptom promoting pattern to seek medical

attention and reported by more than 80% of individual with post operative condition. According to international allocate for the study of pain, it is an unpleasant sensory and emotional experience associated with actual or potential tissue damage. Antibiotic are the substances

that destroy or inhibit the growth of other microorganisms and are used in the treatment of external or internal infection. Antibiotics analysis is most commonly prescribed drugs in surgical ward. The use of antibiotic has become a routine practice for the treatment of post operative patients. The study of prescribing pattern is part of the medical audit and seeks to monitor its use. It also used to evaluate and suggest the modification in prescribing practice to make medical care rational. The lowering of pain and infection thus is an important part of the perception of cure and the overall well being of the patient. Drug use evaluation is a onetime study to evaluate appropriateness of drug therapy. The intention is to recognize whether current pattern of prescribing, dispensing and use of drug therapy. The ultimate goal of the study is to find out to the drug use evaluation and prescribing pattern of antibiotic and analysis in a tertiary care hospital in spite of considerably improvement in the availability and control of drugs in the hospital, drug use evaluation is still lay worldwide problem for healthcare professional. Prescribing process is an important skill in which need to be continuously assessed and refined accordingly. Now a day's prescriptions are mainly influenced by many factor like unethical drug promotion, lack of knowledge. Direct to consumer advertising. Non availability of drugs. It leads to chance of irrational prescription.

MATERIAL AND METHODS

Study design: - Our study was hospital based prospective observational study conducted in a tertiary care hospital.

Study population: - The study was done in the department of surgical wards.

Study procedure: - The study was done by collecting information by using patient case sheets, based on the data a questionnaire prepared.

Nearly data of 234 patients were collect which include case history, demographic details and reason for admission, PMH, laboratory parameter and drug dose

regimen with frequency were collected.

Sampling method: - All the patient of age below 21-52 who is using analysis and antibiotic, who are willing to give consent, was included in the study.

The surgical wards were visited four days in a week and information was called for the study and analyzed.

Study duration: - The duration of the study was 9 months from Nov 2016 to July 2017.

Inclusion criteria: - Patient who are willing to give the information

Patient of both sexes.

Patients of age below 21 to 52.

Patient who are under analysis and antibiotics.

Patient admitted in the surgical wards.

Exclusion criteria

Patients who are not interested for giving information.

Patients age above 52.

Patients suffering with viral infections (HIV, AIDS, TB, HLV).

Unconscious

-Psychiatric.

-Pregnancy and lactating mother.

Study material

Patient consent form: - Consent was collected by using self design patient consent form. Consent was made into three languages Telugu, Hindi and English.

Ethical approval: - The study was approved by institutional ethical committee and tertiary care hospital.

Data analysis: - The data was analyzed by demographic details, prescription of analysis and antibiotic, reason for admission and antibiotic prescribed per patient, severity of infection. All the data was analyzed by statistical software like mean median standard duration. The data was analyzed by using Microsoft excel and the result was given by percentage.

RESULTS

Table 1: Shows the demographic details of the patients including educational level and nutritional status.

Demographics	No of patients	Percentage
Age		
18- 24	72	20%
25- 35	54	15%
36-45	63	17.5%
46- 52	171	47.5%
Sex		
Male	153	42.7%
Female	207	57.5%
Marital status		
Married	207	57.5%
unmarried	153	42.7%
education level		
primary	90	25%
secondary	162	45%
tertiary	108	30%
Nutritional status		
Poor	162	45%
Average	108	30%
Well nourished	90	25%

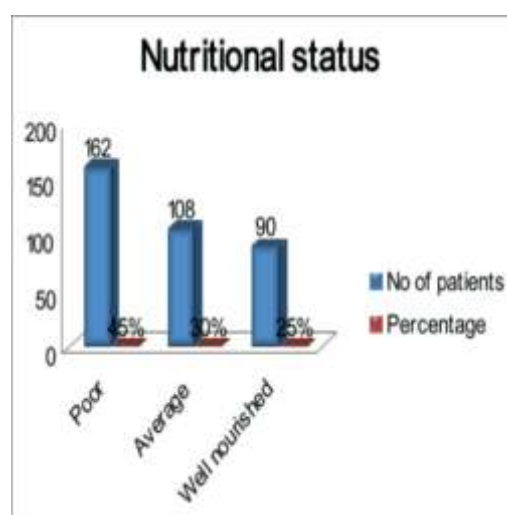
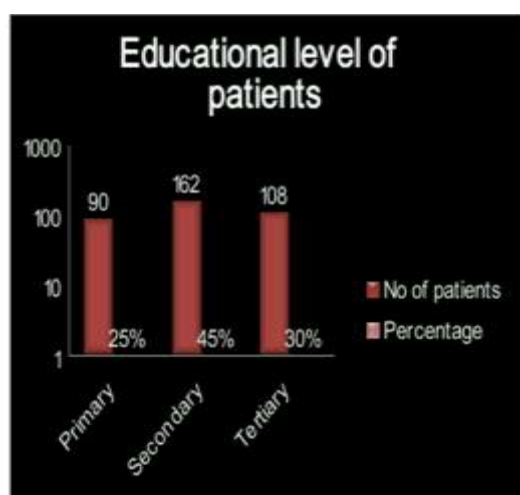
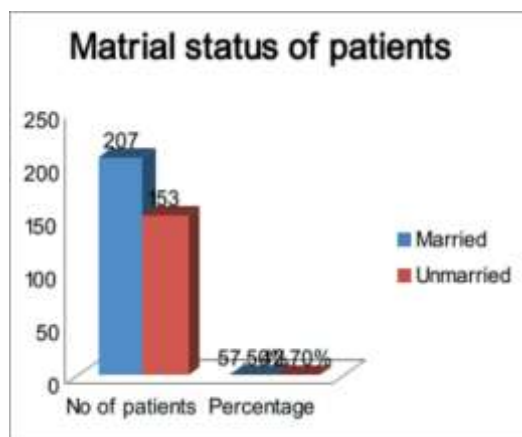
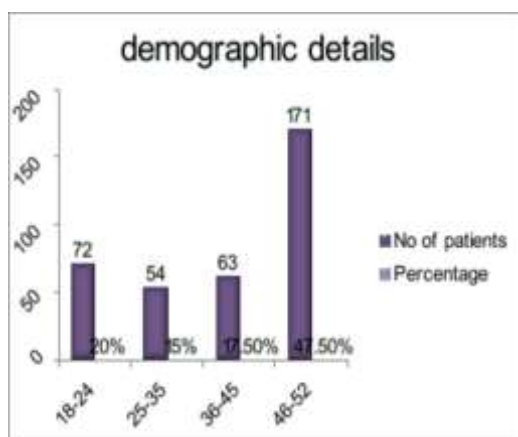


Table 2: Shows the analgesics prescribed for the patients with frequency.

Analgesics prescribed	No of patients	Percentage
Ibuprofen	63	17.5%
Aceclofenac	108	36%
Diclofenac	153	42.5%
Paracetamol	72	20%
Tramadol	153	42.5%
Naproxen sodium	99	27.55%
Ketorolac	81	22.5%
Nimsulide	108	30%
Mefenamic acid	162	45%

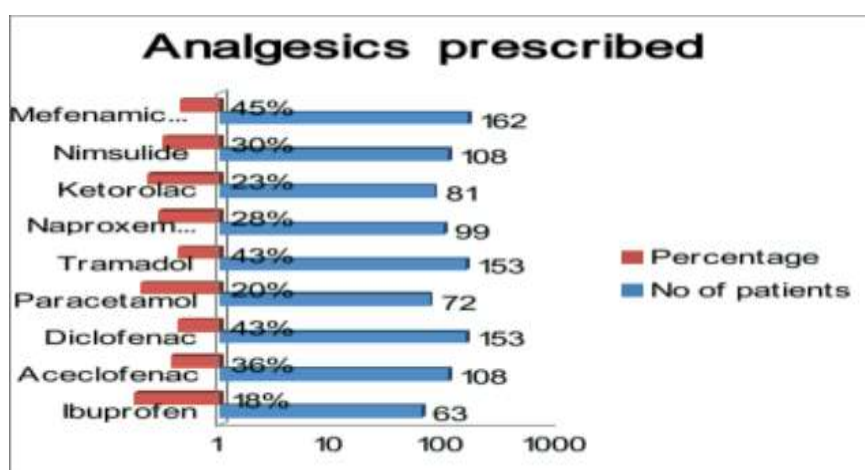


Table 3: Shows the antibiotics prescribed for the patients with percentage.

Antibiotics prescribed	No of patients	Percentage
Ceftriaxone	207	57.5%
Cefatoxime	162	45%
Cefpodoxime	108	30%
Amoxicillin	153	42.5%
Amoxicillin + tazobactam	99	27.5%
Amikacin	81	22.5%
Vancomycin	72	20%
Pipercillin + tazobactam	153	42.5%
Gentamycin	63	17.5%
Cefatoxime + sulbactam	108	30%

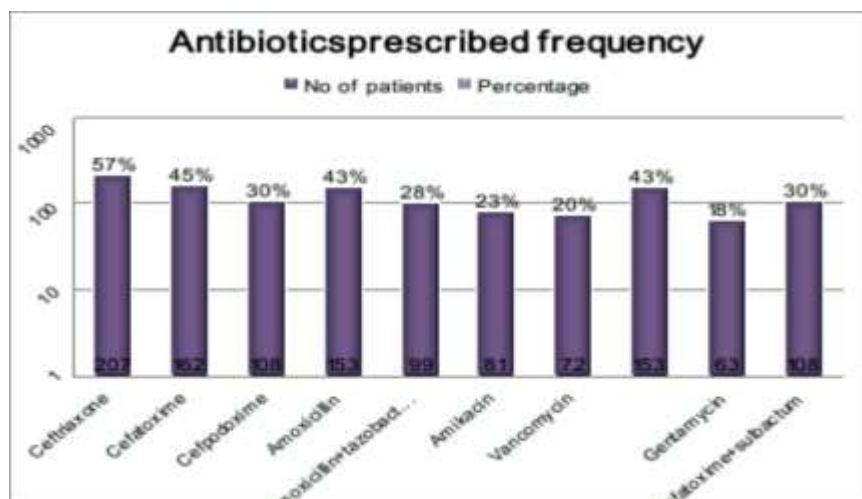
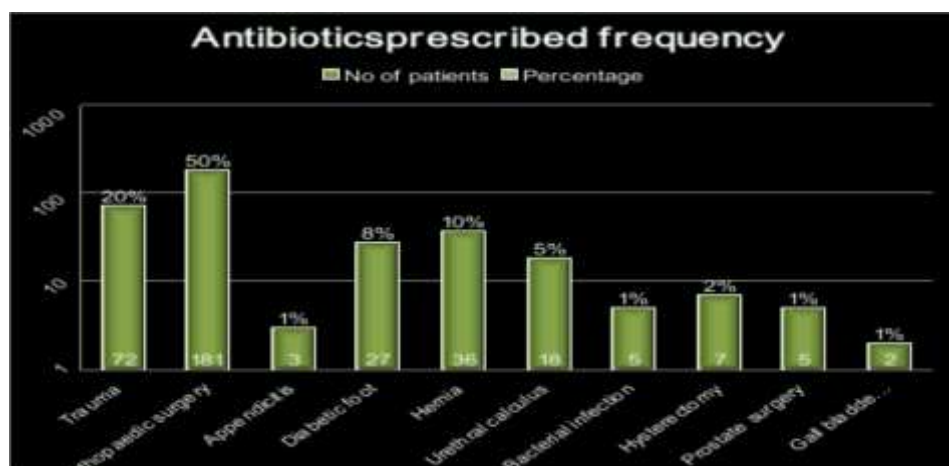


Table 4: Shows the reason for admission in the department of surgical wards.

Reason for admission	No of patients	Percentage
Trauma	72	20%
Orthopedic surgery	181	50%
Appendicitis	3	0.8%
Diabetic foot	27	7.5%
Hernia	36	10%
Urethral calculus	18	5%
Bacterial infection	5	1.3%
Hysterectomy	7	1.9%
Prostate surgery	5	1.3%
Gall bladder removal	2	0.5%
Aortic anemone repair	4	1.1%



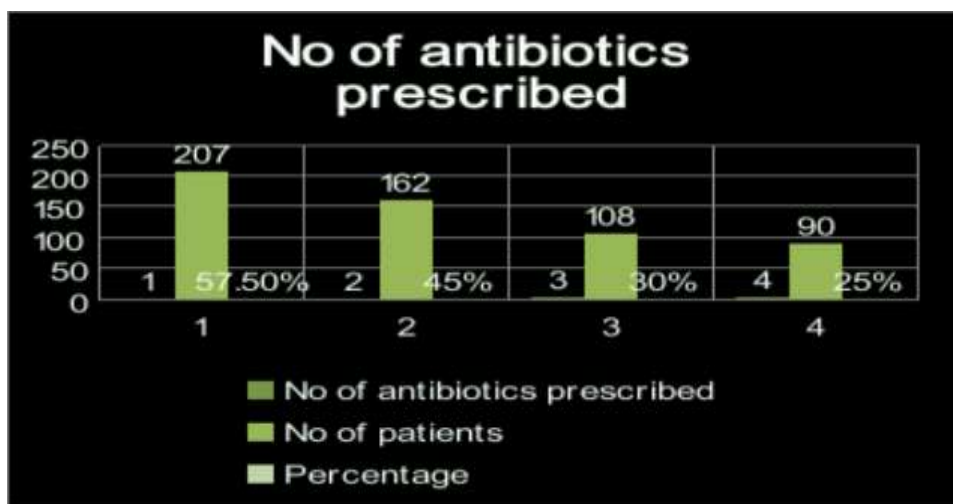
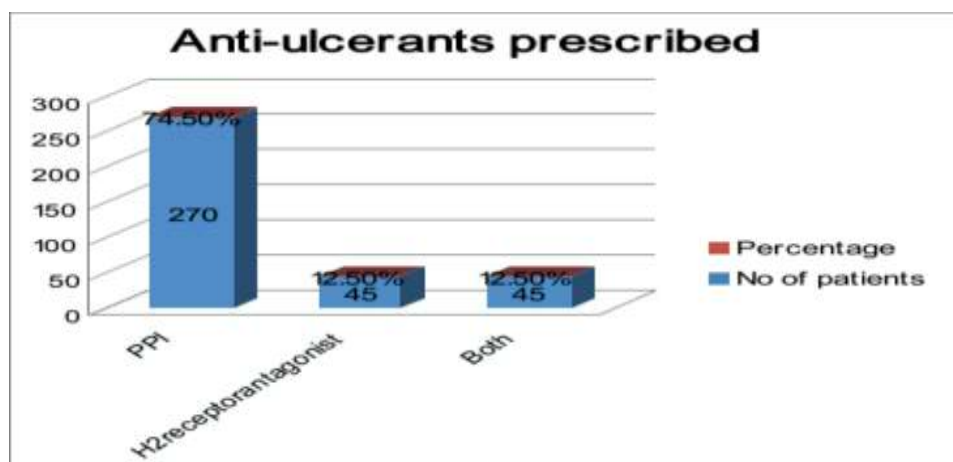


Table 5: Shows the frequency of antibiotics prescribed per day in the surgical wards of a tertiary care hospital.

Frequency of antibiotics	No of patients	Percentage
Once a day	207	57.5%
Two times a day	72	20%
Three times a day	36	10%
Four times a day	45	12.5%

Table 6: Shows anti-ulcerants prescribed for the patients to overcome the complications of analgesics and antibiotics.

Types of anti-ulcer drugs	No of patients	Percentage
PPI	270	75%
H2 regular antagonist	45	12.5%
Both	45	12.5%



Duration of analgesic	No of patients	Percentage
1 day	360	1%
2 days	360	1%
3 days	360	1%
7 days	270	75%
14 days	72	20%

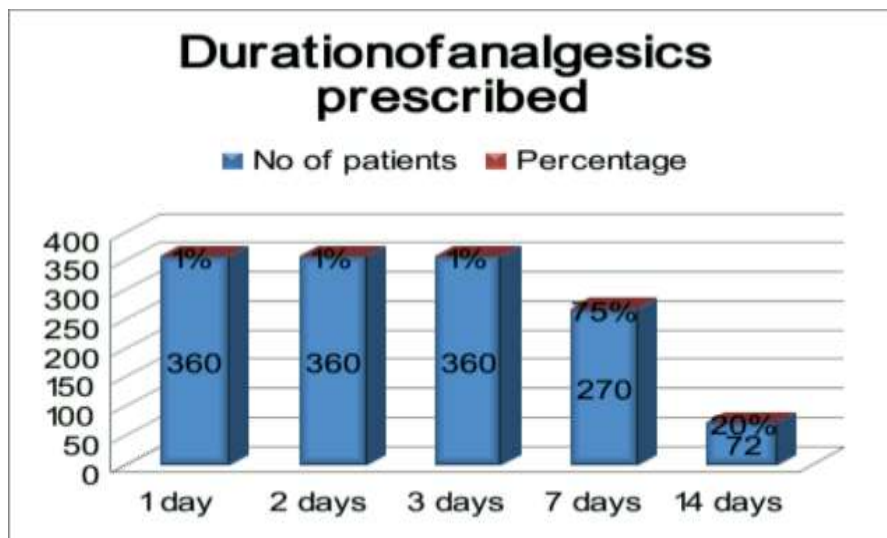


Table 8: Shows the duration of antibiotics prescribed to get relieve from pain with percentage.

Duration of antibiotic	No of patients	Percentage
1 day	360	100%
2 days	360	100%
3 days	360	100%
7 days	360	100%
14 days	180	50%

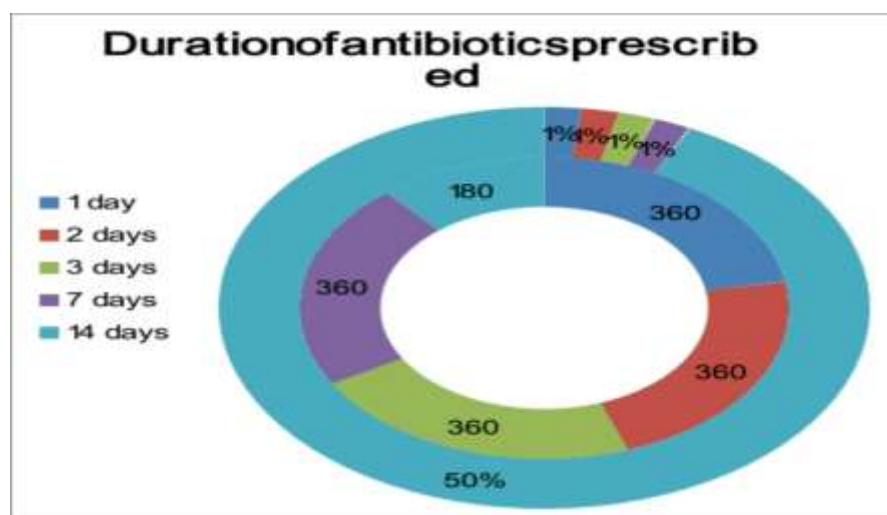


Table 9: Shows the therapeutic outcomes from the drugs prescribed by the physicians for their condition.

Therapeutic outcomes	No of patients	Percentage
No change	27	07.50
Poor	54	15.00
Average	207	57.50
Above average	45	12.50
Better	09	03.00
Excellent	18	05.00

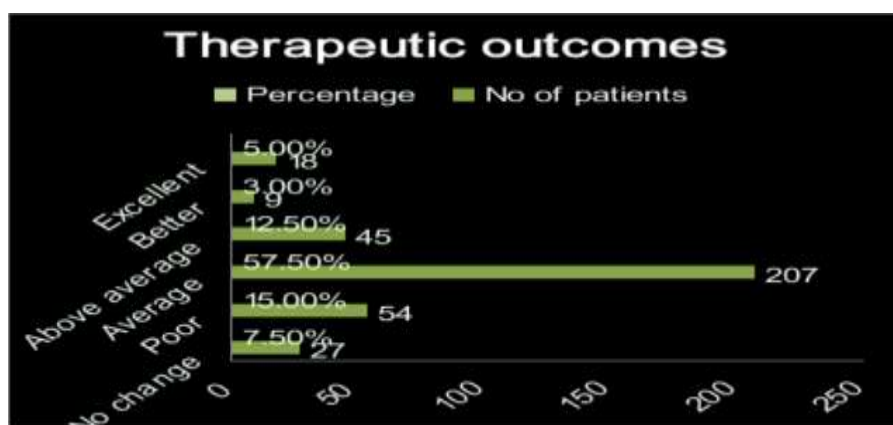


Table 10: Shows the side effects of analgesics and antibiotics prescribed in the surgical wards of a tertiary care hospital.

Side effects due to drugs	No of patients	Percentage
Vomiting	18	5.00
Nausea	5	1.30
Headache	16	4.44
Giddiness	00	000
Abdominal pain	7	1.94
Diarrhea	2	0.50
Dizziness	9	2.50
Rash	23	6.38
GI bleeding	00	000
Constipation	36	10.0
Nervousness	00	000
Tachycardia	Not observed	Not observed

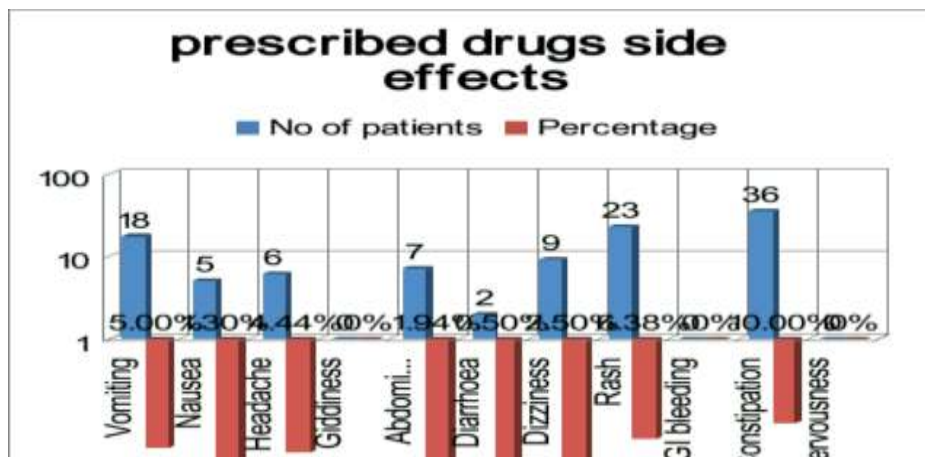


Table 11: Shows the drugs evaluation by the physician and visits of doctor in their wards was evaluated.

Drugs evaluated by physician	After evaluation	Doctor visits to the surgical wards	Patients response
All the drugs	No	Once or twice	Better
Any treatment modifications	No		
Conditions	Observed		
Symptoms	Noted		
Feeling after surgery	Better	In emergency the physicians can check	
About diet	Not explained		
Monitored parameters	Yes		
Any advices to the patients	No		
Conditions explained to family	yes		

DISCUSSION

Out of 360 patients were of age group between 21 to 52, the most of the people admitted were males 207(57.50%) and females(42.70%), the marital status of the patients were maximum married and Nutritional status is poor. Reasons for admission in the hospital is mainly due to orthopedic surgery (180 50%) and trauma (accidents, fallen in the working place) trauma 72 (20%). The analgesics prescribed were mainly diclofenac and tramadol 153 (42.5%) and antibiotics prescribed were mainly ceftriaxone 207 (57.5%) and cefaperazone 162 (45%). Anti ulcerants prescribed to overcome gastric irritation due to analgesics and antibiotics is proton pump inhibitor 270 (75%) and duration of analgesics prescribed were maximum 3 days 360 (100%) and maximum antibiotics prescribed were 7 days 360 (100%). The patients have not have effective in treatment and maximum patients felt as average. The side effects of the drugs are observed and it's mainly of constipation no serious side effects are observed and the drugs evaluation by the physician and advices are very much less and physicians are also not available all the time.

CONCLUSIONS

Our study concluded that most of the patients admitted in the surgical wards are due to orthopedic surgeries and trauma (accidents), males are more suffered in the working place or in journeys. The antibiotics and analgesics prescribed to overcome the pain and infection but due to pain multiple doses of analgesics are prescribing it show severe side effects and complication. The duration of the therapy is too long and the outcomes are less and availability of physician is also less. So the government should take measures to avoid accidents. As we are the clinical pharmacist should create awareness and counsel the patients not use more analgesics and precautions to be followed.

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