RESEARCH ARTICLE

A PROSPECTIVE STUDY ON IMPLEMENTATION OF DOCTOR OF PHARMACY/CLINICAL PHARMACY SERVICES TO GENERAL MEDICINE DEPARTMENT OF AN ESI HOSPITAL

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ABSTRACT

Clinical pharmacy is defined as that area of pharmacy concerned with the science and practice of rational medication use. In India there is imbalance between physician and patient ratio recent statistics states that for every 1000 patients only one physician is available in India in this situation there is increased work load on physician ultimately leads to therapeutic failure as the physician even don't have enough time to look over therapeutic and drug related issues, The present study aims at Prospective study on implementation of clinical Pharmacy services to General Medicine department in a territory care hospital. It is a prospective observational study. The Present study was conducted for a period of six months from October 2018 to March 2019. The Patients admitted in hospital was 90-100 Patients. All the required data was collected from patients through personal interview and case sheets and treatment charts and data collection forms which are clearly explained below. All the patients satisfying the inclusion criteria were selected & all the required data was collected from patients through personal interview and case sheets and treatment charts. Prism graph pad software is used for analysis of results the present study was found as highly significant as P-Value is 0.001. In this study we have Provided 626 clinical pharmacy services in general medicine department of territory care hospital. It includes 245 drug information services, 160 patient counseling services. we have screened 138 drug interactions and 83 adverse drug interactions in the individual prescriptions. The present study clearly states and concludes that there is urgent need in creation of active role Doctor of Pharmacy Profession in Indian health care system for providing better therapy and rational usage of drugs.

INTRODUCTION

Clinical pharmacy is defined as that area of pharmacy concerned with the science and practice of rational medication use [1]. Clinical pharmacy is the branch of pharmacy in which pharmacists provide patient care that optimizes the use of medication and promotes health, wellness, and disease prevention .It comprises the services which provided by the clinical pharmacists to achieve rational drug therapy that is safe ,appropriate and cost effective for the patient .The practice of clinical pharmacy includes the philosophy of pharmaceutical care, blending a caring orientation with focused therapeutic knowledge, experience, and judgment to make sure optimal patient outcomes. As a discipline, clinical pharmacy also has an commitment to contribute to the generation of new knowledge that advances health and quality of life [2]

Clinical pharmacy a set of functions that encourage the safe, effective and economic use of medicines for individual patients, it requires the application of specific knowledge in the field of pharmacology, pharmacokinetics, pharmaceutics and therapeutics to patient care [1].

Clinical Pharmacists Services in Hospitals:

➢ Prescription analysis identification on medication errors.

➢ ADRS (adverse drug reaction) identification and reporting.

➢ Drug interaction identification reporting.

➢ Drug and poison information services for all healthcare professionals as well as patients.

➢ Patient counselling services for achieving medication adherence, improving quality of life of patient.

AIM

➢ The study aims at implementation of clinical Pharmacy services to General Medicine department in a territory care hospital.

OBJECTIVES

The key objectives of the study include:

➢ Preventing the medication related problems (ADRs, Drug interactions, over dose).

➢ Providing various services in the department like

➢ ADRs and drug interaction identification and reporting.

➢ Drug and poison information services for all health care professionals as well as patients.

➢ Patient counselling services for achieving medication adherence, improving quality of life of patients, minimization of complications.

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➢ Identifying and minimizing medication related problems.

➢ Improving Patient safety initiatives and Patient health related outcomes.

➢ Providing better therapy to the large number of patients and improving the patient health related outcomes.

METHODOLOGY

Study Design: It is a prospective observational study. Study Period: The Present study was conducted for a period of six months from October 2018 to March 2019. Study site: The Present study was conducted in General Medicine Department at ESI hospital, Indira nagar. Sample size: The Patients admitted in hospital during the study period of six months it was 90-100 Patients. Source of Data: All the patients satisfying the inclusion criteria were selected from General medicine department in ESI hospital, Indira nagar. All the required data was collected from patients through personal interview and case sheets and treatment charts and data collection forms which are clearly explained below. Inclusion criteria: Patients with aging above 18 years, Patients having previous history of medical, medication problems, The Patients who are willing to participate in the study. Exclusion criteria: Patients who are not willing to

participate in the study like Pregnancy, Lactation, and Cancer Patient. Method of collection of data: All the patients satisfying the inclusion criteria were selected from General medicine department in ESI hospital, Indira nagar. After thoroughly explaining the study methodology to the subjects, and included in the study. The necessary information was collected by interviewing the patients and parents using the following annexure.

ANNEXURE -1: Patient Data Collection Form

This annexure was self-prepared, structured data collection form used to collect the demographic details of the recruited subjects. It includes age, sex, past medical history, past medication history, present medical history, diagnosis, laboratory parameters, and treatment chart.

ANNEXURE -2: Adverse drug reaction reporting form

This annexure consist of details of patient information, adverse drug information, dose of drug, suspected drug ,date of drug started, date of reaction ended, started, date of drug stopped, reporter details.

ANNEXURE-3: Drug interactions reporting from

Annexure consist of patient personnel details,

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consuming drug details, drug-drug, drug-food, drug-disease details.

ANNEXURE -4: Patient counseling form and feedback form

This annexure consist of information regarding patient details, diagnosis details, counseling points related to disease.

ANNEXURE-5: Drug and poison information form and feedback form

This annexure consist of information of the drug relates to doses, mechanism of action, adverse effects, drug of choice.

RESULTS AND DISCUSSION

Table1 shows Age wise distribution of male patients, in this study total of 100 patients were enrolled in the study. The males population is 78.The age wise male Patients population ranges from the 10 Patients were in the age group of 10-20 years (12.820%) 17 Patients were in the age group of 20-30 years(21.794%),14 patients were in the age group of 30-40 years (17.948 %),12patients were in the age group of 40-50 years (15.384 %), 10 Patients were in the age group of 50-60 years(12.820 %),08 patients were in the age group of 60-70 years (10.256 %),07patients were in the age group of 70-80 years (8.974 %),0 patients were in the age group of 80-90 years (0%). Table2 shows in this study total of 100 patients were enrolled in the study. The Females population is 82.the age wise

Female patients population ranges from the 12 Patients were in the age group of 10-20 years (14.634 %),3patients were in the age group of 20-30 years(18.292%),6 Patients were in the age group of 30-40 years (29.268 %),16 patients were in the age group of 40-50 years (19.512 %), 8 patients were in the age group of 50-60 years(9.756 %),5 patients were in the age group of 60-70 years (6.097 %), 2 patients were in the age group of 70-80 years (2.439%).

Table3 shows Gender Wise Distribution of Study Patients A total of 160 patients were selected for the study, in which 78 patients were males remaining 82 patients were females. Table4 shows a total of 100 patients were selected for the study, in which 56 patients were alcoholic and 44 patients were having behavior of smoking. Table5 shows categories of drug information queries received month wise Total 245 drug queries were received during the study period from different enquirers, in which queries from physicians 24 (9.7959 %),queries from pharmacist includes 36 (14.693%),queries from pharmacy teaching staff includes 57(23.265%),queries from nurses includes 38(15.510%),queries from post graduate students includes 90 (36.734 %).

Table6 shows Distribution of queries received month wise a total of 245 drug queries were received during the study period from different months in which 34 (13.877%) queries received in October month, 18 (7.346%) queries received in November month, 25 (10.204%) queries received in December month, 70(28.571%) queries received in January month, 54 (22.040%) queries received in February month, 44 (17.959%) queries received in march month,

Table7 shows Distribution of queries based on purpose of enquiry in this study Total 147 drug queries received during the study period. It is based on the purpose of enquiry, in which update of knowledge purpose i have received 78(53.061%), queries, better patient care purpose we have received queries includes 69 (46.938%). Table8 shows Severity of Drug interactions Total 138 drug interactions were screened during the study period. In which 58 (42.02%) prescriptions having major drug interaction, 45 (32.60%) Prescriptions having minor drug interaction, 38 (27.536%) prescriptions having moderate drug interactions.

Table 9 shows ADR'S screened month wise Total 83 Adverse drug reactions were screened during study period. In which month wise screening of adverse drug reactions includes 8 (9.638%) ADR's were screened in October month, 12(14.45%) ADR's were screened in November month, 10 (12.04%) ADR's were screened in December month, 21 (25.30%) ADR's were screened in January month, 14 (16.86%) ADR's were screened in February month, 18 (21.68%) ADR's were screened in March month.

Table 10 shows Information regarding diagnosis, Patient counseling activities shows in our study total 100 patients were enrolled. In which 100 cases are diagnosed in the general medicine department hospital, we have counseled 160 Patients about various diseases. Table11 shows Total clinical Pharmacy services in territory care hospital in this study we have Provided 626 clinical pharmacy services in general medicine department of territory care hospital. It includes 245 drug information services, 160 patient counseling services. We have screened 138 drug interactions and 83 adverse drug interactions in the individual prescriptions. Prism graph pad software was used for this study and P-Value is 0.001 which states this present study was highly significant.

ETIHICAL APPROVAL

The Present study is approved by Ethical Committee of Gautham College of Pharmacy, R.T Nagar, Bangalore, Karnataka, India affiliated to ESI Hospital, Indira nagar, Bangalore, Karnataka, India.

CONCLUSION

In India there is imbalance between physician and patient ratio recent statistics states that for every 1000 patients only one physician is available in India in this situation there is increased work load on physician ultimately leads to therapeutic failure as the physician even don't have enough time to look over therapeutic and drug related issues, The present study clearly states and concludes that there is urgent need in creation of active role Doctor of Pharmacy Profession in Indian health care system for providing better therapy, positive health related outcomes and rational usage of drugs.

REFERENCES

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RESEARCH STUDY TABLES AND FIGURES

Table No 1: Age wise distribution of male patients

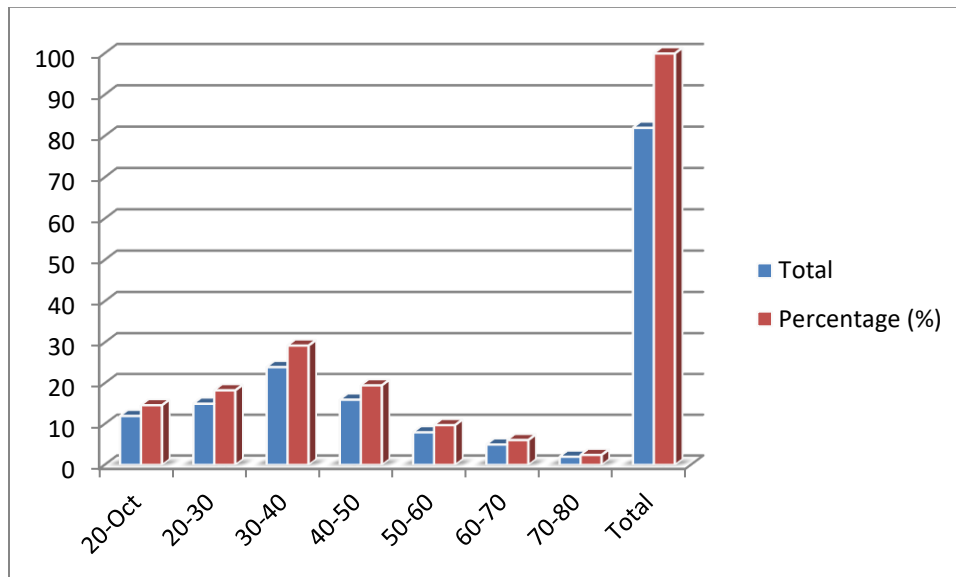| Age in years	Total number of Patients	Percentage (%)
10-20	10	12.820
20-30	17	21.794
30-40	14	17.948
40-50	12	15.384
50-60	10	12.820
60-70	08	10.256
70-80	07	8.974
80-90	0	0
Total	**78**	**100**
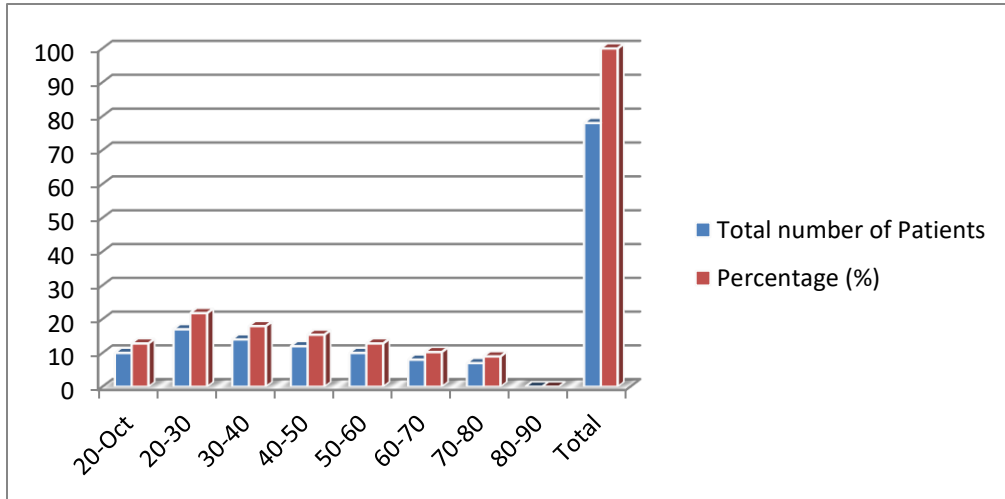
Fig1 No 1: Age wise distribution of male patients

Table No 2: Age wise distribution of Female patients

Age	Total	Percentage (%)
10-20	12	14.634
20-30	15	18.292
30-40	24	29.268
40-50	16	19.512
50-60	8	9.756
60-70	5	6.097
70-80	2	2.439
Total	**82**	**100**

Fig No 2: Age wise distribution of Female patients

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Table no 3: Gender Wise Distribution of Study Patients

Status	total	Percentage
Number of male patients	78	48.75
Number of female patients	82	51.25
Total number of patients	**160**	**100**
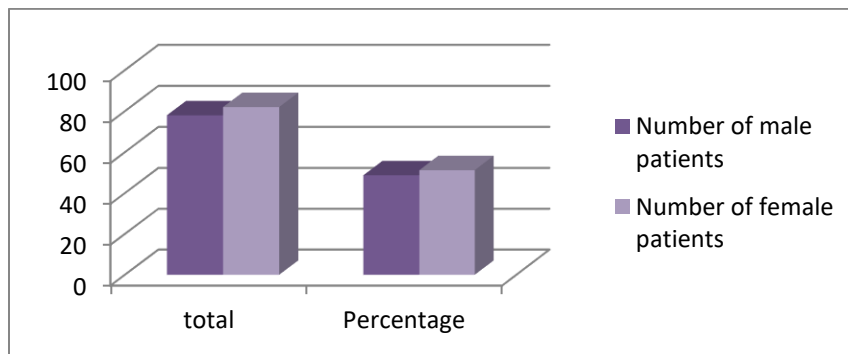
Fig3: Gender Wise Distribution of Study Patients

Table No 4: Personnel behavior wise distribution of study population.

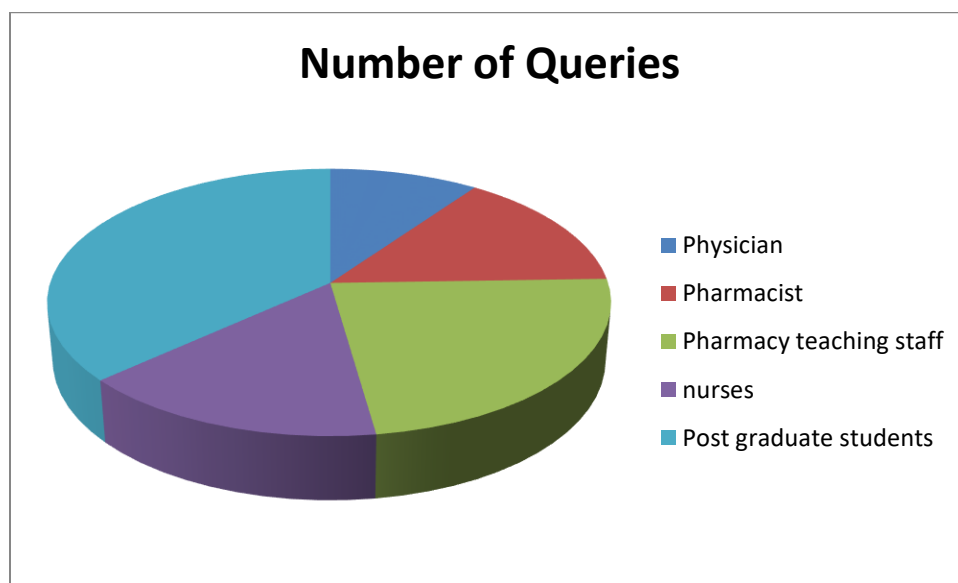| Status	Total
Alcoholic	39
smoking	48
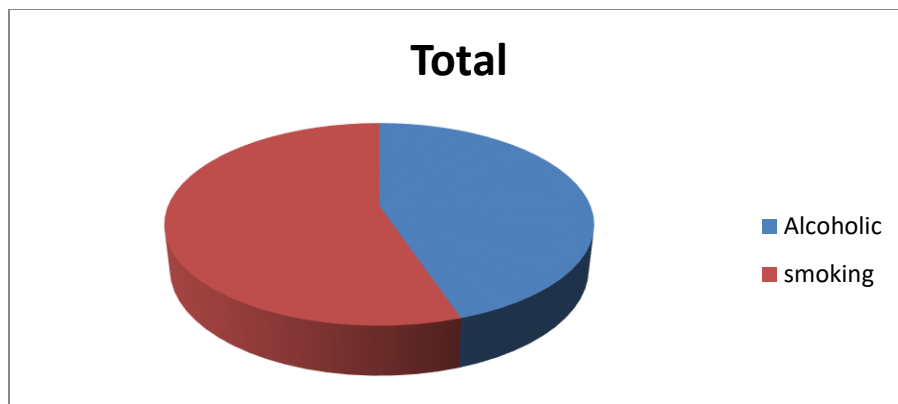
Fig No 4 : Personnel behavior wise distribution of study population.

**Table No 5: categories of drug information queries received month wise**

Status of enquirer	Number of Queries	Percentage (%)
Physician	24	9.7959
Pharmacist	36	14.693
Pharmacy teaching staff	57	23.265
Nurses	38	15.510
Post graduate students	90	36.734
Total	**245**	**100**

Fig No 5: categories of drug information queries received month wise.

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**Table No 6: Distribution of queries received month wise**

Month	Number of Queries received	Percentage (%)
October	34	13.877
November	18	7.346
December	25	10.204
January	70	28.571
February	54	22.040
March	44	17.959
Total	**245**	**100**
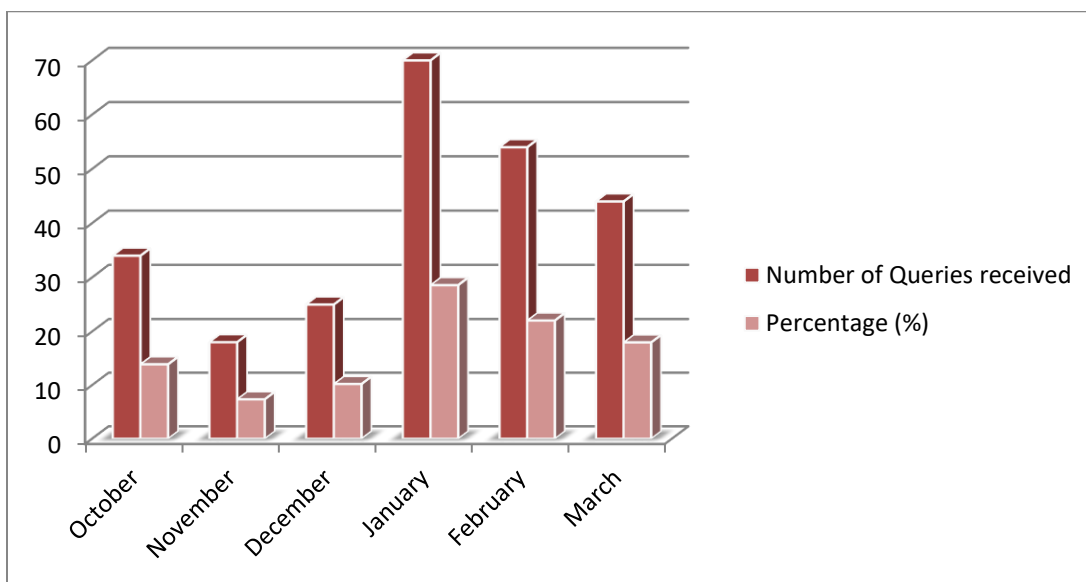
Fig No 6: Distribution of queries received month wise.

Table No 7: Distribution of queries based on purpose of enquiry

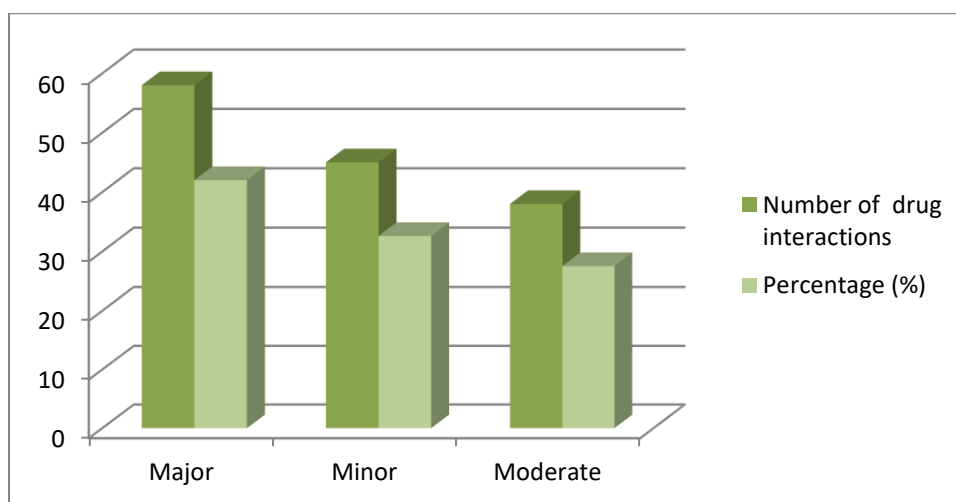| Purpose	Frequency	Percentage (%)
Update knowledge	78	53.061
Better Patient care	69	46.938
Total	**147**	**100**

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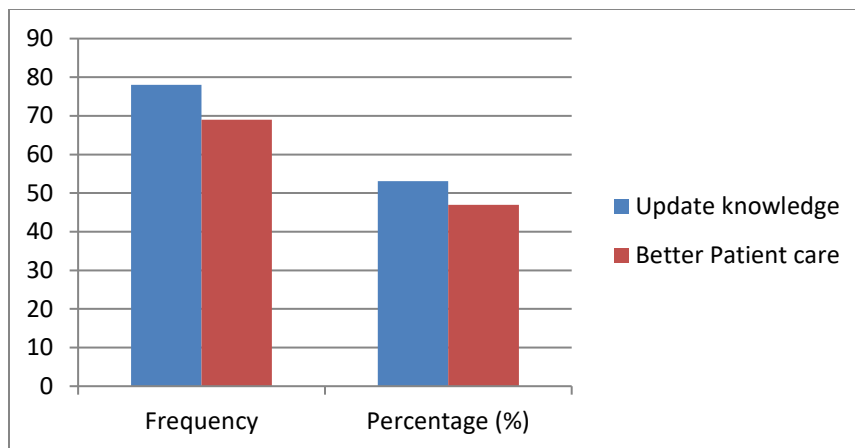
Fig No7: Distribution of queries based on purpose of enquiry

Table No 8: Severity of Drug interactions

Type of severity	Number of drug interactions	Percentage (%)
Major	58	42.02
Minor	45	32.60
Moderate	38	27.536
Total	**138**	**100**

Fig No 8: Severity of Drug interactions

Table No 9: ADR'S screened month wise

| Month	Frequency	Percentage (%)
October	8	9.638
November	12	14.45
December	10	12.04
January	21	25.30
February	14	16.86
March	18	21.68
Total	83	100
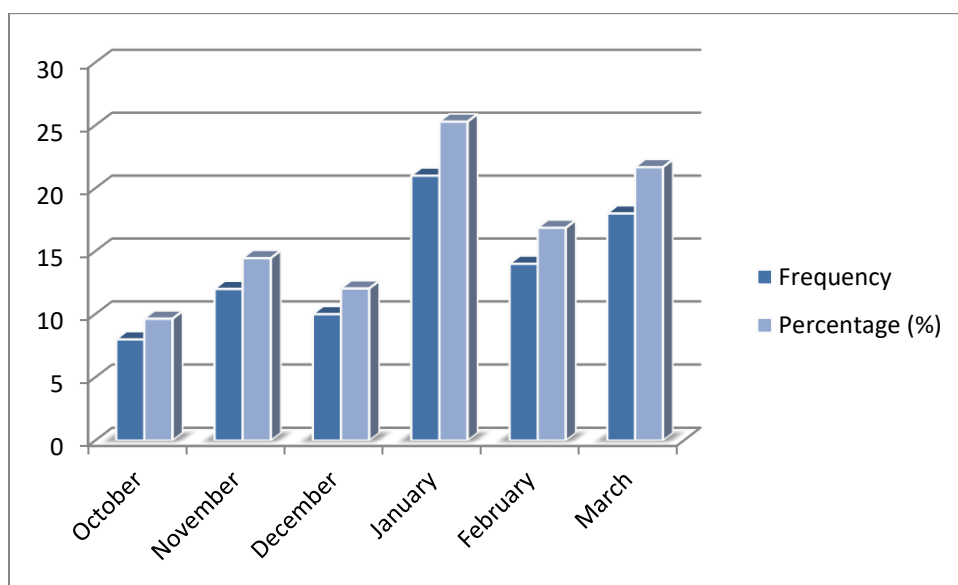
Fig No9: ADR'S screened month wise

Table No 10: Information regarding diagnosis, Patient counseling activities

Status	Total	Percentage
Patient Counseling for diseases	160	100
Diagnosis cases	160	100

Table No 11: Total clinical Pharmacy services in territory care hospital

Status	Total
Drug information services	245
Patient counseling services	160
Drug interactions screened	138
ADR's Screened	83
Overall services	626
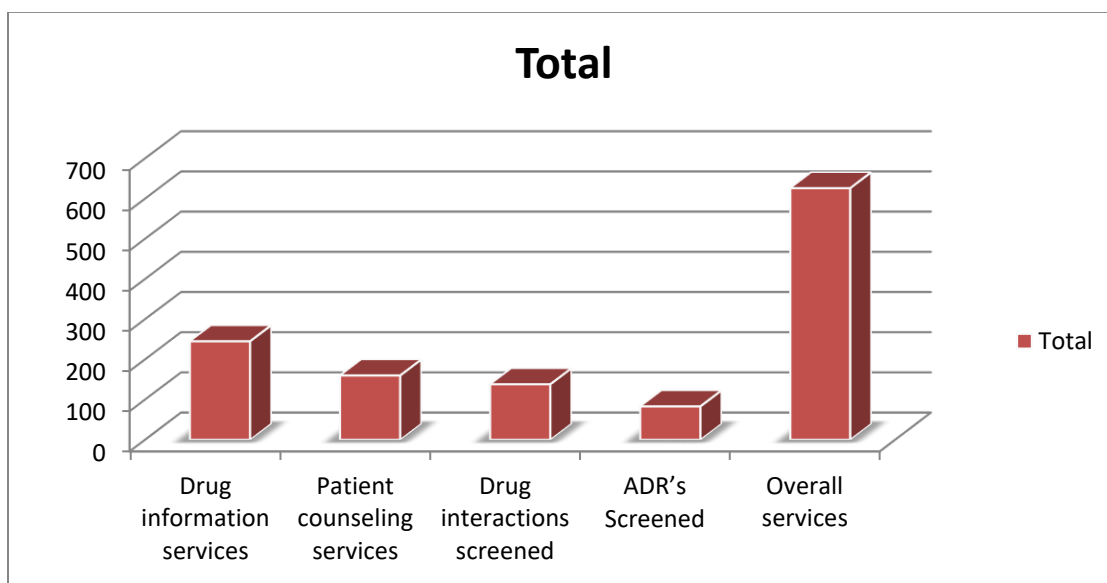
Fig No10: Total clinical Pharmacy services in territory care hospital

P-VALUE: The P-VALUE is 0.001 which states the present study is highly significant.