



Assessment and Evaluation of the Services Provided in Drug Information Centre of A Rural Tertiary Care Hospital

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Type of Publication: Original Research Paper

Conflicts of Interest: Nil

Abstract

Background: Drug information center (DIC), in most cases, involves pharmacy service built as a unit that deals with offering recent, balanced, truthful facts about drugs to the public, patients, and health care professionals. ⁽¹⁾Deficiency of unprejudiced drug information and lack of time are few of the reasons that makes the physicians unable to improve their knowledge about medicines which has resulted in an increasing demand for independent and unprejudiced information about drugs for better patient care ⁽²⁾. Drug information centers have been started in many developing countries ⁽³⁾.

Method: We conducted a prospective, observational study in Dhanalakshmi Srinivasan Medical College and Hospital, Perambalur involving a sample size of 422. The study involved medical, paramedical, other health care employee, patients attenders, relatives, general public between November 2019 to January 2021.

Result: A total of 422 queries were included in the study. Out of the 422, about 246 were females and 176 males. Hence there was a female preponderance in our study. A total of 284 students were involved in our study, mostly involving second year and third year MBBS students. Most of the queries were received through Whatsapp that is 276 queries. Type of query was mostly on choice of drug that is 75 queries.

Conclusion: This study finally concludes that the awareness about DIC is good among the students but further awareness has to be created among the public and other health care professionals. The future scope of drug information centers in India depends on the quality of service, credibility among users and the evaluation of its progress.

Keywords: Drug information centre, Drug information service, Poison information centre

Introduction

Drug information service is one which provides written or verbal data about drugs and drug therapy in response to a request from other healthcare providing organizations, committees, patients, and public. The current duty of pharmacists has markedly changed from the traditional product related stream towards provider of pharmaceutical care to patients as an important part of clinical pharmacy service. Currently management teams in the health care system are

identifying the significance of drug information center existence.

The first drug information center began at the University of Kentucky Medical Center in 1964. The Drug Information Association (DIA) was initiated in Maryland, USA. It is an international, nonprofit, multidisciplinary association for health and well-being worldwide. In 1958 the American Association of Poison Control Centers (AAPCC) was started to

develop cooperation between various poison centers in different places⁽⁴⁾. After the establishment of the first regularized drug information center (DIC) at the University of Kentucky in 1962, surveys following various aspects of pharmacist operated DICs has been published⁽⁵⁾.

In India, Rosemary sharp, a missionary from UK, started the Foremost drug information centre at the Christian Medical College, Vellore in the early 1970's⁽⁶⁾. After recognising the need to provide organized drug information to health care professionals as well as consumers, the WHO India Country Office in collaboration with the Karnataka State Pharmacy Council (KSPC) supported the establishment of 5 drug information centers. These centres have been established in Haryana (Sirsa), Chattisgarh (Raipur), Rajasthan (Jaipur), Assam (Dibrugarh), and Goa (Panaji).⁽⁷⁾

When practicing clinical pharmacy services in DIC, pharmacists have to cope with the accessible latest vast information about numerous formulations and new drugs that are being entered into the market. In India, irrational use of drugs is common, and this has led to antibiotic resistance, adverse drug reactions (ADRs), drug interactions, and other drug-related problems⁽⁸⁾.

OBJECTIVES: To describe the various drug information queries received and to assess the quality of services provided by the drug information centre

METHODS:

Study design:

1. The study design was a Prospective, observational study.
2. The setting of this study was conducted at the Dhanalakshmi Srinivasan Medical College, Perambalur.
3. The study was approved by the Institutional Ethicscommittee, Dhanalakshmi Srinivasan Medical College, Perambalur.

Study population:

The study involved medical, paramedical, other health care employee, patients attenders, relatives, general public

Study period: The study was carried out from November 2019 to January 2021

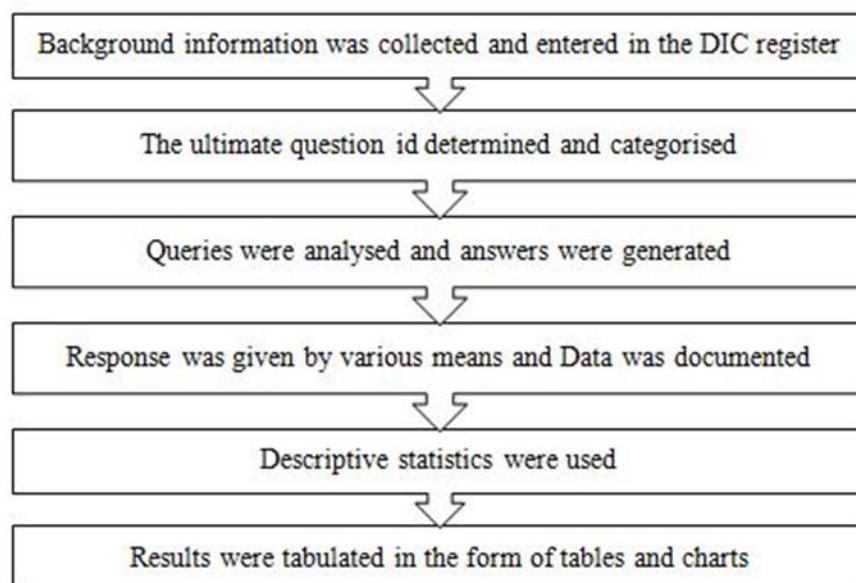
Sample Size: Total of 422 queries were included in the study

Inclusion criteria: All data from the DIC register

Exclusion criteria: Nil

Study procedure:

The demographic data of the requesters was secured in a DIC register. Background information was collected. The ultimate question by the requester was determined and categorised. Search was conducted with the variable available resources. Evaluation was performed, queries were analysed and answer to the queries was synthesised. Response was provided as soon as possible through phone, mail or written format or by other means. All details were documented for further reference.



Statistical Analysis:

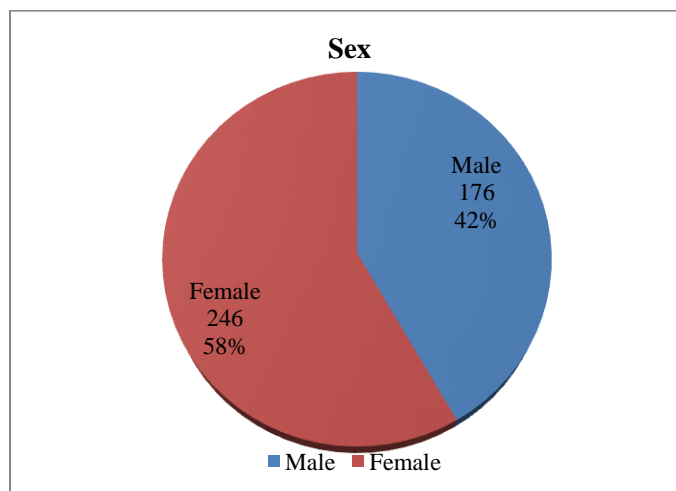
Data obtained was recorded in a structured case record form which was entered in excel format and analyzed by descriptive statistics

Results:

Table 1. Gender of the enquirer

S. No	Sex of the enquirer	Number
1.	Female	246
2.	Male	176

Figure 1. Gender of the enquirer

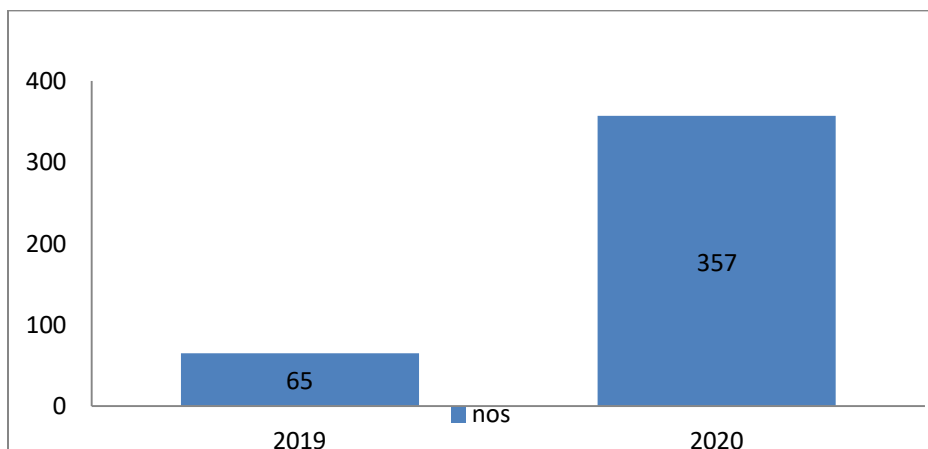


After completing the analysis of the queries, it was found that 58% of the queries were from female and 42% of the queries were from male. Totally we received 246 queries from female and 176 queries from male. We received queries also from students, nurses, Doctors, patients and patient attender.

Table 2. Year wise distribution

S. No	Year	Number
1.	2020	357
2.	2019	65

Figure 2. Year wise distribution

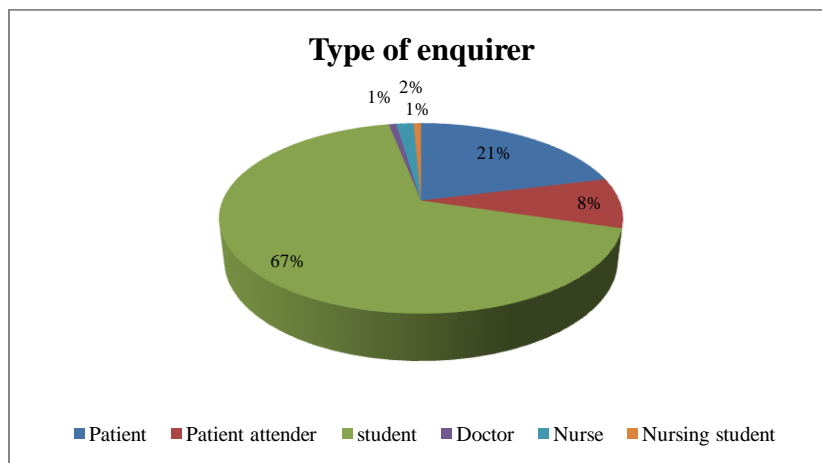


It was noted that only 65 queries were documented in the year 2019 and 357 queries were documented in the year 2020. The difference was mainly due to the reason that most of the study was done in 2020. This difference was also due to the fact that there was lack of awareness about the existence of drug information centre. Later slowly and gradually awareness increased among the students and also the patients.

Table 3. Type of enquirer

S. No	Enquirer type	Number
1.	Student	284
2.	Patient	89
3.	Patient attender	36
4.	Nurse	7
5.	Doctor	3
6.	Nursing student	3

Figure 3.Type of enquirer

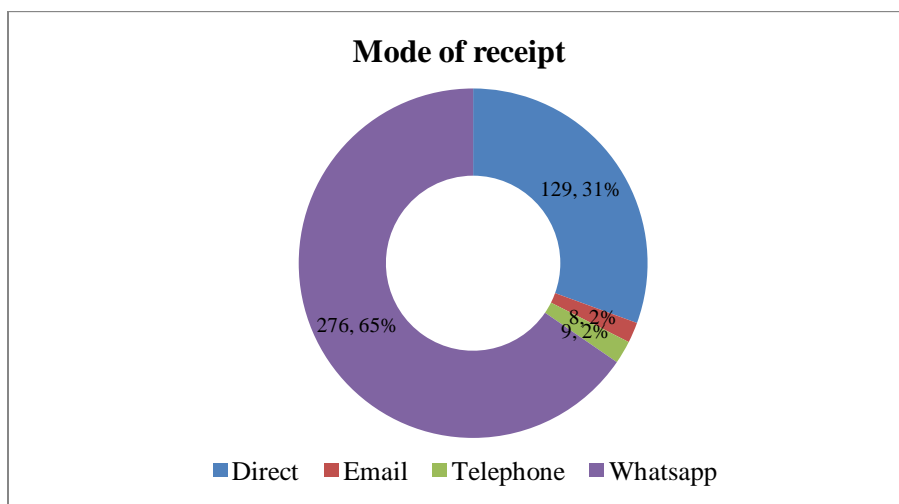


We received most of the queries from MBBS students that is upto 67% which included 284 queries. Students were mostly second year MBBS students and Third year MBBS students. After students most of the queries were from patients that is upto 89 queries that is upto 21%. It is clear that there is increased awareness about Drug information centre among the students and hence this response. There was least number of queries from nursing students owing to lack of awareness.

Table 4.Mode of receipt

S. No	Mode	Number
1.	Whatsapp	276
2.	Personal visit	129
3.	Phone call	9
4.	Email	8

Figure 4.Mode of receipt



Mode of enquiry was largely through whatsapp that constitute upto 276 (65%) queries. Whatsapp has recently become an easy mode of asking queries. After whatsapp most of the queries were through personal visit that is 129 queries involving 31%. Most of the patients asked a query through personal visit as it was convenient for

them. Most of the students asked a query through whatsapp as it was easy for them. Queries were received by providing a toll free number. Awareness was also developed by a local cable TV channel.

Table 5.Type of drug query

S. No	Type of drug query	Number
1.	Choice of drug	75
2.	Others	60
3.	ADR	55
4.	Time to take the drug	40
5.	Indication	29
6.	Uses	28
7.	Pregnancy and lactation	22
8.	Cost of drug	20
9.	With or without food	20
10.	Contraindication	20
11.	Duration of treatment	20
12.	Interaction	14
13.	Dosage	12
14.	Routes of drug administration	9
15.	Kinetics	8
16.	Banned and withdrawn	8
17.	Drug overdose and poisoning	7
18.	Teratogenicity	6
19.	Efficacy	5
20.	Dynamics	5
21.	Storage	5
22.	Vaccine	5
23.	Biological product	5
24.	Formulation	4
25.	Expiry date	2
26.	TDM	2
27.	New drug	1
28.	Drug shelf life	0

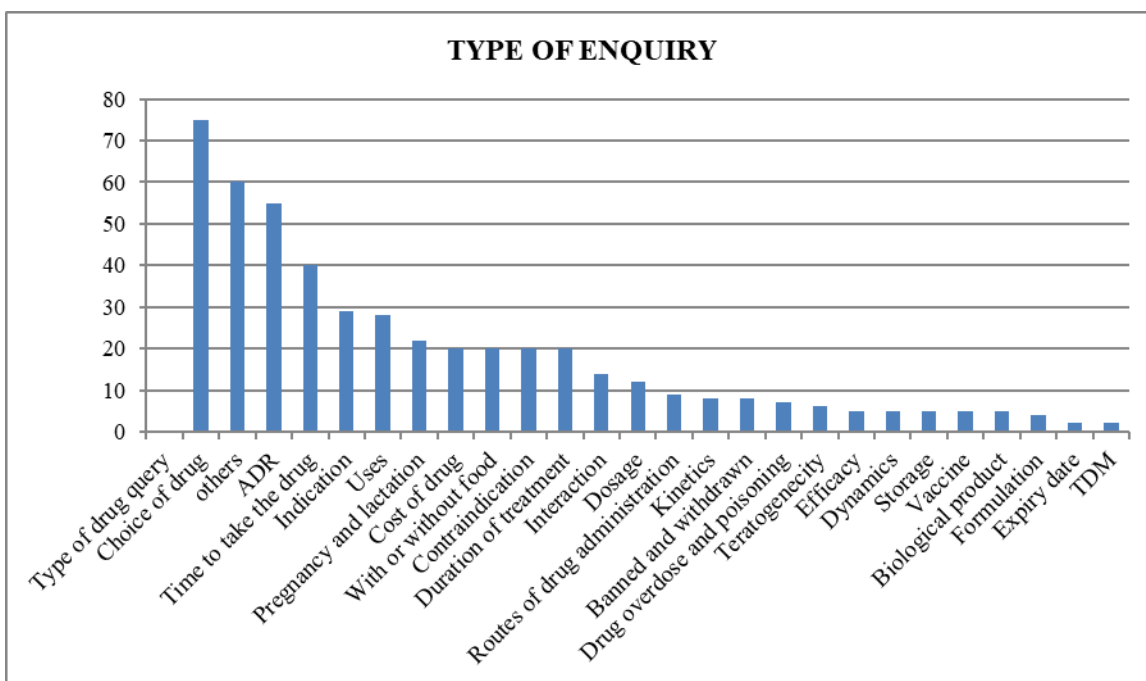


Figure 5.Type of drug query

Table 6.Reason for requisition

S. No	Reason	Number
1.	Update the knowledge	293
2.	Betterment of patient	129

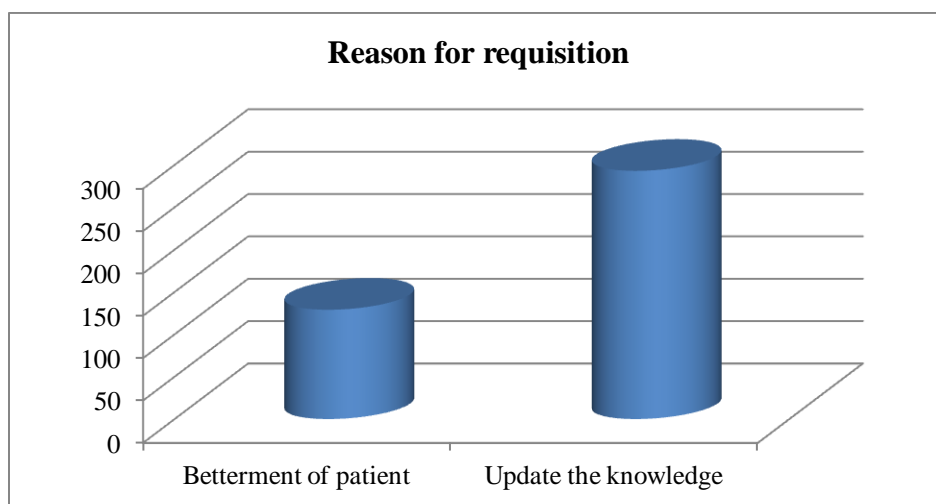


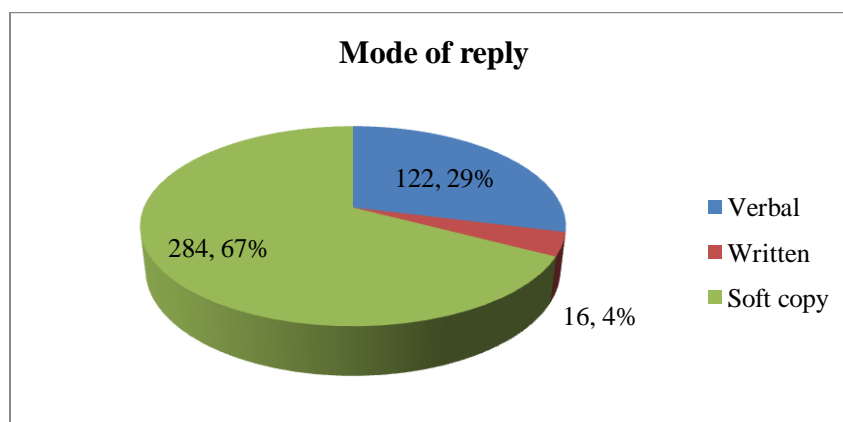
Figure 6.Reason for requisition

The main reason for requisition of query was to Update the knowledge which included 293 queries and for betterment of patient (129 queries). Most of the queries were from students and their main motive for requisition was to update the knowledge. After the students the queries were from patients and their reason for requisition was for their own betterment.

Table 7. Mode of reply

S. No	Mode of reply	Number
1.	Mobile and mail	284
2.	Verbal(Phone call)	122
3.	Written	16

Figure 7. Mode of reply

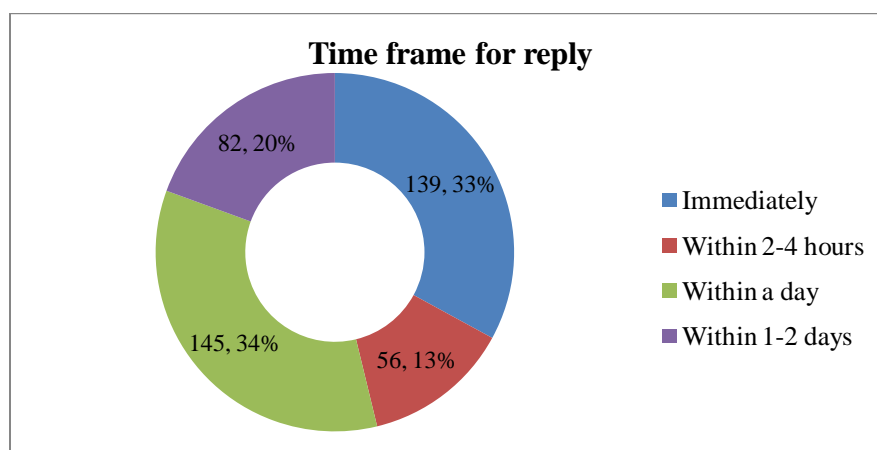


The major method of mode of reply was mainly through mobile as most of the queries were through Whatsapp. The number of queries through whatsapp and email were 284 .About 122 queries were through phone call.

Table 8. Time frame for reply

S. No	Time frame	Number
1.	Within a day	145
2.	Immediately	139
3.	Within 1-2 days	82
4.	Within 2-4 hours	56

Figure 8. Time frame for reply

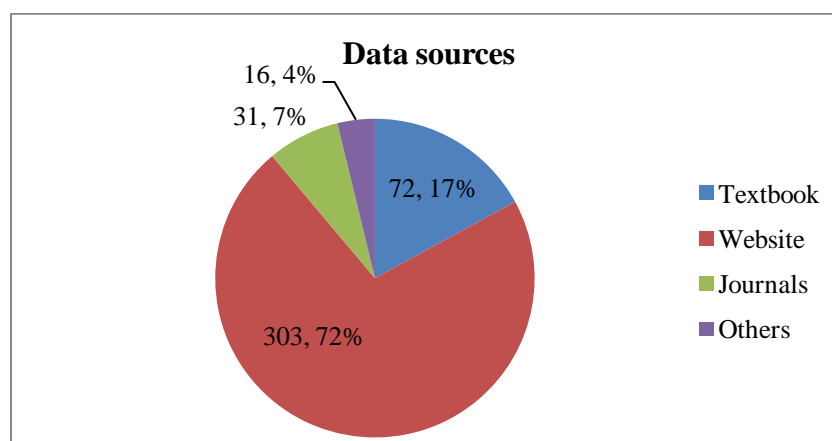


Now coming to the time frame for reply, most of the queries were replied within a day including 145 queries(34%) and 139 queries were replied immediately that is 33% of the queries. Queries will be accepted upto 7pm in the evening, and after that it will be worked upon and replied

Table 9. Data sources used for information

S. No	Data source	Number
1.	Website	303
2.	Textbook	72
3.	Journals	31
4.	Others(Acquired knowledge)	16

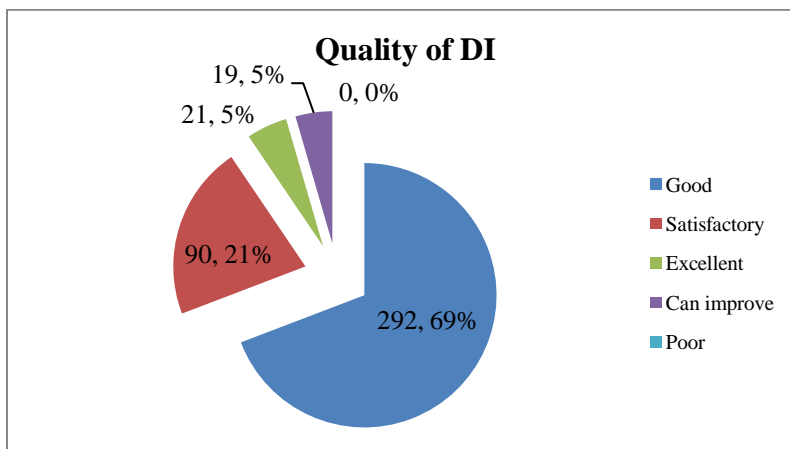
Figure 9. Data sources used for information



Data sources used for replying queries were through journals, standard textbooks, websites. 303 queries were replied by referencing websites and 72 queries were replied through reference from standard textbooks. Almost 16 queries were answered through acquired knowledge which mostly included queries like cost of the drug.

Table 10. Quality of DI provided

S. No	Quality	Number
1.	Good	292
2.	Satisfactory	90
3.	Excellent	21
4.	Can improve	19
5.	Poor	0

Figure 10. Quality of DI provided

Almost all the requestors were satisfied with the quality of information provided and they replied Good as a feedback (292,69%).90 requestors gave satisfactory as a feedback.

Discussion:

This is a prospective observational study from a tertiary care centre in Tamil Nadu conducted for a period of 1 year with a sample size of 422.

On analyzing the queries, it was found that 58% of the queries were from female and 42% of the queries were from male .That is exactly 246 queries were from female and 176 queries were from male out of 422.

In a similar study done by Pradhan et al, the most common type of request were for general information about a drug, its identity, drug interaction or therapeutic use. Whereas considering our study, choice of drug was the most common type of query.

In a study done by Peter et al and Rajanadh et al, the most common type of queries were about Adverse drug reactions. In our study adverse drug reaction was placed as the third most common type of query⁽⁶⁾.

In a study done by Peter et al and Mudigubba et al, the most common mode of reply was printed material .But contrarily in our study most common mode of reply was soft copy that is whatsapp.

Considering study most of the queries were answered within a day(34%).whereas in the study done by Peter et al most of the queries were replied within 2-4 hrs.

In our study most of the queries were through whatsapp whereas in the study done by Peter et

al,most of the queries were received during ward rounds.

The major motive of requisition of most of the queries were to update the knowledge and for better patient care.This was very similar to the study done by Peter et al and Jeevangi et al.

Most of the Feedback responses from the enquirers clearly tells that majority of enquirers were very much satisfied by the response given by them as good .This was similar to a study done by Walli et al⁽⁶⁾.

Conclusion:

Drug information center services will standardize the drugs and patients related problems in the hospital. The center will act as a team with various departments and professionals in the hospital and distribute the information in a timely manner and stop the drug related problems. The proper development as well as awareness is required for continuous practice of these services in hospital.

Establishment of drug information centers in all the hospitals, can promote the quality as well as safety of drug information services to the community. We conclude that every hospital in the country must establish drug information centre and promote quality of care towards community.

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