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## Statistical survey and evaluation of drug information services at a tertiary care hospital

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### ABSTRACT

A retrospective study was conducted on the drug information queries received at the drug information centre (DIC), situated in a multispecialty tertiary care hospital. The drug information queries received were documented in the drug information request and documentation form and these forms were evaluated retrospectively. The quality of drug information services provided was assessed from the receiver's perspective on the basis of the feedback questionnaire circulated. Of the 420 queries, great numbers of queries were from the medicine department (53%). Physicians utilized the service to a great extent (88%). More queries were received during the ward rounds (70%) and the answers were most often given within a day (86%). Modes of reply to queries were printed in 76% of cases. The categories of queries most commonly asked were about general profile (30%). World Wide Web and electronic databases like MICROMEDEX and IDIS were most commonly used resources (49% and 30% respectively). The analysis of the feedback questionnaire on the user survey revealed that all enquirers appreciated the quality of services provided by the drug information centre. The drug information services provided by the drug information centre promotes better patient care by catering to the need of health care professionals.

**Keywords:** Drug information centre, Drug information services, MICROMEDEX

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## INTRODUCTION

The aims of drug information services are to promote safe, effective and economic use of medicinal products by the provision of accurate, current, independent, evaluated information and advice. Misleading or incomplete information can greatly contribute to poor patient outcome, as it has same potential for causing harm as a dispensing error. Drug information is an important service for the promotion of rational use of drugs. The main function of drug information centre is to provide the information for the improvement of patient care [1]. Quality assurance in drug information services can be deciding what services are to be provided, providing them, measuring how well the services were provided, and if the services were not found to be acceptable or optimal, undertaking some correctional activity to ensure that future services will be acceptable [2]. Lack of unbiased drug information and lack of time are some of the factors that makes the physicians unable to update their knowledge about drugs which have resulted in an increasing demand for independent and unbiased information about drugs for better patient care [3-5]. Hence, it is important, to periodically evaluate the mode of functioning and quality of the services provided by the drug information centre.

## MATERIALS AND METHODS

A retrospective study was carried out for a period of seven months (January 2007 to July 2007) to analyze the drug information queries received by the drug information centre, which is situated at a 450 bedded multi-specialty tertiary care hospital in Coimbatore district, Tamilnadu, India. The hospital has a wide range of specialties ranging from general medicine, pulmonology, neurology, oncology, critical care, diabetology, surgery, obstetrics and gynecology, cardiology, nephrology, urology, orthopedics, ophthalmology, pediatric and neonatology, gastroenterology, dentistry, ENT, physical medicine and rehabilitation. The drug information centre is well equipped with reference text books, national and international journals, computer and internet facilities along with electronic databases such as IDIS and MICROMEDEX. The service is provided between 9 am and 5 pm on all days except sundays and public holidays. Drug information services can be assessed by telephone, direct access, email and also during ward rounds. The drug information queries are evaluated and answers are provided according to the modified systemic approach. The drug information requests and answers are documented and maintained in the drug information documentation files. Survey on drug information services was carried out in two steps. The first step involved retrospective evaluation of drug information request and documentation forms. The evaluation was based on the following parameters such as professional status of the enquirer, specialty of practice, mode of receipt of query, purpose of enquiry, time frame to reply, category of question and references used. Secondly, the quality of services provided was assessed from the receiver's perspective through a questionnaire (See Annexure-I) comprising questions, pertaining accessibility of the service, utilization, opinion, satisfaction of the enquirer and quality of service provided by the centre. Questionnaire was given to healthcare professionals of various departments to know the feedback on the service provided. The filled questionnaires were collected from individual respondents on the same day and it was documented.



**ANNEXURE I**

**USER SURVEY OF THE DRUG INFORMATION SERVICE**

Please complete the following questionnaire by placing a TICK [ ]:

- I was able to contact the service easily YES [ ] NO [ ]
- I was informed when I could expect answer YES [ ] NO [ ]
- The answer provided was sufficiently detailed for my needs YES [ ] NO [ ]
- In general I found the service to be helpful YES [ ] NO [ ]
- I received the answer within the time requested YES [ ] NO [ ]
- I was happy with the answer to my question YES [ ] NO [ ]
- My question was answered in full YES [ ] NO [ ]

Any further comments

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Thank You for your co-operation

Name

Signature

**RESULTS AND DISCUSSION**

Of the 420 queries, a great number of queries were from the medicine department (53%). Drug information queries were also obtained from various departments such as gynaecology (27%), pulmonology (10%), pediatrics (5%), oncology (1%), cardiology (1%), and others (3%). Physician utilized the service to a great extent (88%); nurses and pharmacist were the other healthcare professionals who availed this service. Most queries were received during ward rounds (70%), which could be attributed to the easy accessibility of a clinical pharmacist that prompts them to utilize the services. Queries were also received through telephone (19%) and by direct access (11%). Answers were most often given within a day (86%) and the mode of reply of queries was printed in 76% of cases and verbal in 18% of cases. Some of the queries required an immediate answer because it was for patient care and hence the mode of reply was verbal, which was similar to the results of a study conducted by Padma Rao *et al* [6]. The categories of questions most commonly asked were about general profile (30%), dosage (12%) and drug therapy (18%). Queries were also asked on many occasions for other purposes like availability, cost, drug interactions, pharmacokinetics, pharmacodynamics, indication, contraindication, poisoning, pregnancy and lactation. Nibu *et al* [7] showed that drug information service queries received were most commonly related to administration and dosage followed by adverse drug reactions. World Wide Web and electronic databases like MICROMEDEX and IDIS were most commonly used resources (49% and 30% respectively). The ease of retrieval of information through World Wide Web and the availability of recent and

relevant information makes electronic databases an equally important search strategy. The ease of retrieval of information through textbooks explains the use of tertiary source of information in 16% of the query. Upon evaluation of the drug information queries, it was found that most of the beneficiaries of the service were the physician of the medicine department and most of the enquirers asked the query to update their knowledge (67%) and utilized the services for better patient care. Table 1 shows the details of drug information queries.

**TABLE 1: EVALUATION OF THE DRUG INFORMATION QUERIES**

<b>Categorization of query</b>	<b>Number of queries (n=420)</b>	<b>Percentage of queries (%)</b>
<b>Specialty</b>		
Medicine	223	53
Others	197	47
<b>Status of enquirer</b>		
Physician	368	88
Others	52	22
<b>Mode of receipt of query</b>		
Direct Access	48	11
During ward rounds	293	70
Others	79	19
<b>Purpose of query</b>		
To update knowledge	282	67
Education/Academic	82	20
Patient specific	56	13
<b>Time frame to reply</b>		
Within 10 minutes	18	4
Within 30-60 minutes	32	8
Within a day	363	86
Within 2 days	7	2
<b>Mode of Reply</b>		
Verbal	75	18
Printed	320	76
Written	25	6
<b>Type of query</b>		
General profile	128	30
Dosage	50	12
Others	242	58
<b>Drug information resources referred</b>		
Primary	9	2
Secondary	127	30
Tertiary	68	16
World wide Web	206	49

The analysis of the feedback questionnaire on the user survey revealed that all the enquirers appreciated the quality of services provided by the drug information centre. Thirty four questionnaires were distributed to physicians of different departments of the hospital for

their feedback, of which only 19 nineteen responded. All of the respondents agreed that they were able to access the drug information services easily and the answers were to their expectations. None of the respondents said no to any of the questions asked. The drug information services provided by the drug information centre promotes better patient care by catering the need of health care professionals.

### CONCLUSION

The provision of drug information is one of the most fundamental responsibilities of pharmacist, regardless of practice setting. The identification of characteristic needs of the physician in regard to drug information suggests that such needs may be useful in tailoring the drug information centre to specifically meet the needs of the user. The results and evaluation performed in the drug information centre indicates almost complete acceptance of the drug information centre by those health care professionals who use its service and the centre has been contributing toward better patient care. Because of the dynamic nature of the medical and drug information, graduating pharmacist will need to have well developed skills in information retrieval, interpretation and clinical application in order to practice effectively. Pharmacist must engage in formalized and continual training in the drug information and seek to transform their professional activities. It is also important for the drug information centre to institute formal quality assurance programs in order to emphasize quality healthcare services.

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