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Review Article

## Review on initiation and evaluation of drug information services provide

K.B. Chandrika<sup>1</sup>, K. Hari Narayana<sup>1</sup>, M. Madhavi<sup>1</sup>, M. Indu<sup>1</sup>, R.Gautham Chakra<sup>2</sup>, K. Swathi Krishna<sup>3</sup>

1. B Pharmacy final year student, Saastra College of Pharmaceutical Education and Research, Nellore

2. Assistant Professor, Dept.of Pharmacy practice, Saastra College of Pharmaceutical Education and Research, Nellore

3. Principal, Saastra College of Pharmaceutical Education and Research, Nellore

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### \*Corresponding Author

R.Gautham Chakra

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### Abstract

**Aim:** The aim of this study was to evaluate the quality of drug information services provided in Nellore district. **Materials and Methods:** To provide unbiased drug information by modified systematic approach. Shows that Queries are received from various health care professionals through Hospital and classified as per educational status like Nutritionist, Lab technicians, social workers. More queries are received Nutritionist from hospital. **Results:** Results are predicted as Nutritionist (1.09%), lab technicians (1.09%), social worker (0.54%). Among the non-judgmental type, 25 queries were randomly selected and analyzed, 52% had a rating of 5 and 44% had a rating of 4. This indicates all responses satisfied the minimum acceptable level of quality. Non-judgmental responses did not require extensive searching and clinical judgment and thus the clinical pharmacist could answer such enquiries effectively. **Conclusion:** In our study we conclude that the pharmacists in other hospitals all over the Country would appreciate the value of their involvement in pharmaceutical care and attempt to extend their services for better patient care in the hospital.

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### Introduction

The concept is fast catching up in several developing countries because of the sharp rise in the medical costs and increasing instances of medication errors. An important reason for the rising costs of medical costs in developed countries is the marketing exclusivity enjoyed by pharmaceutical companies for their latest life threatening drugs. For pharmaceutical companies, pushing up their sales is the sole aim whereas a large majority of the physicians can be easily coaxed into indulges in irrational prescription to serve the interests of these companies.

The absence of insurance cover for a large number of poor people both in the developed and developing world also adds to overall healthcare costs. Medication errors by the physicians is another serious problem confronting the patient community today as knowledge level about new drugs and adverse drug reactions (ADR) is extremely poor amongst physicians.

Thus, several hundreds of cases of complications and deaths are being reported every year in various parts of the world on account of medication errors. One way to control medical costs and medication errors is to promote the concept of rational use of drugs by providing authentic drug information to doctors,

pharmacists, nurses, researchers, other professionals in health care, committees and patients<sup>1</sup>.

**Methodology**

**Aim:**

The aim of this study was to evaluate the quality of drug information services provided in Nellore district.

**Objectives:**

- 1) To provide unbiased drug information by modified systematic approach.
- 2) To categorize drug information requests for easy follow up.
- 3) To evaluate drug information services provided in Nellore district.
- 4) To improve quality & extension of DIS provided in DIC.

**Study site:** All the primary, secondary & tertiary care hospitals in and around Nellore.

**Study design:** this is a Prospective interventional study to extend the drug information services in KIMS Hospital Nellore.

**Study Period:** the study is planned over a 6months period from Jun 2022 to Nov 2022

**Study criteria:**

**Inclusion criteria:**

1. All the DI queries which are received by direct, telephone & Email or any other mode of communication are included in our study.

**Exclusion criteria:**

1. Poison information is not included.
2. DI queries responded in the Jayabharath Hospital.

**Results**

The drug information centre received a total of 183 drug information queries during the study period. More number of queries was from the government hospital.

**Table: 1 Status of enquirer (Physicians)**

Categorization of queries	Number of queries	Percentage
M.B.B.S	19	10.38%
B.D.S	04	2.18%
R.M.P	35	19.18%
P.M.P	02	1.09%
B.A.M.S	03	1.63%

**Table: 1** shows that Queries are received from physicians classified as per educational status like M.B.B.S, B.D.S, R.M.P, B.A.M.S, and P.M.P. More queries are asked from registered medical practitioner. results are as follows (R.M.P).R.M.P (19.18%), M.B.B.S

(10.38%), B.D.S (2.18%), B.A.M.S (1.63%) & P.M.P (1.09%).

**Table: 2 Status of enquirer (nurses)**

Categorization of queries	Number of queries	Percentage
GNM	28	15.30%
STUDENT	08	4.37%
B.SC NURSING	36	19.37%

**Table:2** shows that Queries are received from nurses and classified as per Educational status like General Nursing, Bachelor of Nursing, General nursing students. More queries are received from nurses through government hospital .Results are as follows B.SC nursing (19.37%), General Nursing (15.30%), General nursing students (4.37%).

**Table: 3 Status of enquirer (others)**

Categorization queries	Number of queries	Percentage
NUTRITIONIST	02	1.09%
LAB TECHNICIANS	02	1.09%
SOCIAL WORKER	01	0.54%

**Table:3** shows that Queries are received from various health care professionals through government Hospital and classified as per educational status like Nutritionist, Lab technicians, social workers .More queries are received Nutritionist from government hospital. Results are predicted as Nutritionist (1.09%), lab technicians (1.09%), social worker (0.54%).

**Table: 4 Status of different health care professionals**

Categorization of queries	Number of queries	Percentage
PHYSICIANS	63	34.42%
NURSES	72	39.34%
PHARMACISTS	38	23.49%
OTHERS	05	2.18%

**Table: 4** shows that Queries from different health care professionals like Physicians, nurses, Pharmacists, and other health Care professionals. Total in 183 queries Majority of the questions were Asked by the nurses

(39.34%), Physicians (34.42%), Pharmacists (23.49%), others (2.18%).

**TABLE: 5 Mode of Request**

Mode of request	Number of queries	Percentage
Direct access	127	69.39%
Telephone	52	28.41%
Email	04	2.18%

**Table: 5** shows that services of the drug information centre can be accessed by direct access, Telephone, email. Most of the queries were received by direct access (69.3%). Queries were also received Through telephone (28.41%) and during E-mail (2.18%).

**Table: 6 Type of query**

Type of query		
CATEGORY	NUMBER	PERCENTAGE
Adverse drug reaction	92	50.27%
Drug interaction	12	6.55%
Dosage	22	12.02%
Drug therapy	30	16.39%
Indication	14	7.65%
Others	13	7.10%

**Table: 6** shows that Categories of questions most frequently asked were about adverse drug reactions(50.27%) and dosage and indication (19.67%). Queries were also asked about drug therapy (16.39%). Drug interactions (6.55%) generic name, administration, availability, pharmacodynamics, pharmacokinetics, Drug profile and others.

shows that a total of 183 questionnaires were distributed to the enquirers of Various Hospitals for their feedback, out of which, all 183 (100%) responded. For a question on the Awareness About the drug information centre, 78% of them responded positively received the Appropriate answer within the stipulated time. Some of the suggestions put forward by the enquirers to Improve the Performances of the drug information centre were 24 hour drug information service and need For awareness Program in hospital. Results are as follows responded on rating scores 0-5.on scores the Majority of health care professionals responded to satisfactory (31.69%), Excellent (28.4%),very good

(13.11%), good (13.11%), Need improvement (13.66%) 38.

### Discussion

As comparative to study of Padma GM Rao et.al 49 Among the 183 queries received during the study period, the greater percentage of the queries were from the medicine department in government hospital. The clinicians utilized the drug information service to a larger extent compared to nurses, physicians, pharmacists and other health care professionals. Most of the queries were received during direct visit with physicians, because larger number of nurses and the faculty members of the department of pharmacy practice participate through directly of the medicine department which utilizes different categories of drugs creating the need for unbiased information.

Drug information queries were also received via telephone and through direct access and most of the queries were utilized for better patient care followed by update of knowledge. Here again the queries required an immediate answer and hence the mode of reply was printed material.

From the results it is been found that the key purpose of drug information was in regard with adverse drug reactions, dosage/administration and drug therapy. This result was similar to the results of the studies conducted by Padma G M Rao et al49 at the same site. The main sources of reply were taken from secondary sources, tertiary sources resources such as IDIS and Micromedex & text book of pharmacology, British National Formulary. This might be because of ready availability of Micromedex (computerized drug information database) and the ease of getting answers make Micromedex a standalone reference resource. Clinical pharmacology .com

Majority of the queries were from the general medicine department which covers the areas such as cardiology, respiratory, oncology, etc. Further there were also an increased number of queries in field of alternative medicine and clinical pharmacology (drug effects). Results of the external auditing indicate that the most of the requestors were generally satisfied with the service provided.

This assessment of quality is done in three major areas i.e. Structure, Process and Outcome. Structural assessment includes an annual review of the resources like personnel, facilities and Organization, while process assessment reviews the activities involved in the provision of drug information like documentation, receipt of enquiries, resource search, data collection,

evaluation & assessment of data and formulation of replies.

#### Evaluation of quality of drug information service

Sample of Queries were evaluated according to predetermined, explicit and objective criteria using separate scales for judgmental and non-judgmental responses with rating from 1 to 5. Among the 25 judgmental enquiries (which require the highest degree of sophistication and clinical judgment) 35% were rated as either 'very good' or 'excellent'. A 'very good' rating meant the consultation had minor problems such as comprehensiveness, timeliness, documentation or writing.

One response having four percentage shares was rated 'good' indicating significant deficiencies with regard to documentation, comprehensiveness, timeliness or other important aspects. Among the non-judgmental type, 25 queries were randomly selected and analyzed, 52% had a rating of 5 and 44% had a rating of 4. This indicates all responses satisfied the minimum acceptable level of quality. Non-judgmental responses did not require extensive searching and clinical judgment and thus the clinical pharmacist could answer such enquiries effectively.

The comparison of the qualitative assessments of the reported studies showed that, both the judgmental and non-judgmental queries answering has been improved over the time. (8-10) this study showed that results were comparable to the studies reported earlier from the same centre in the past. Most of the queries answered by the centre were within the acceptable limits of quality. However, improvement in answering the judgmental enquiries is required.

#### Outcome evaluation

In the survey conducted among the clinicians, eighty percent of the respondents were aware of the drug information service and almost more than ninety percent of them used it regularly. Almost all of the enquirers received the appropriate answer within an acceptable time. Regarding the question on rating on the communication skills of clinical pharmacist and the performance of drug information centre, majority of the responders have rated both as very good. This shows the high functional capability of clinical pharmacists in the drug information centre. On the other hand some physicians have rated as satisfactory and poor respectively. This aspect has to be looked into and care has to be taken to find out and rectify the mistakes. Some of the suggestions to improve the performance of the centre were: provision of the latest information to all

hospital departments, a 24hr service, and increasing the interaction of clinical pharmacists and clinicians.

The comparison of the present study with the previous reports on the outcome evaluation showed that the enquirers have been satisfied with the performance of the centre for its timeliness and appropriateness the overall performance of the drug information centre is found to be good. This shows that the centre is consistently maintaining the quality of service.

A future plan for the drug information requests from the other members of the public and the drug information services to them should be taken into consideration.

#### Conclusion

The drug information services provided by clinical pharmacists at the KIMS hospital were found to be useful and beneficial to the healthcare professionals and patients in and around Nellore. We conclude that the pharmacists in other hospitals all over the Country would appreciate the value of their involvement in pharmaceutical care and attempt to extend their services for better patient care in the hospital. Since the DIC Was established, there has been a steady increase in the number of Enquiries indicating an increase in awareness of the center, as a source of unbiased Drug information among doctors. This experience should encourage networking Of DIC's in India. In future government of India should collaborate with private organization and to establish more DICs to improve better patient care in drug therapy and its complication.

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