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Assessment of adherence to drug information service protocol in a rural Indian Hospital

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Abstract

Background: Drug information service is an essential supportive service to the health care practice. Quality assurance is an ongoing process to improve and maintain quality of drug information services. In this study we focused of assessing the protocol adherence for drug information services.

Methods: The study was conducted for the drug information services in a rural South Indian hospital for a period of two years (2011-2012). Assessment was done on adherence to the protocol and satisfaction of customers.

Results: A total of 726 queries were answered in the study period which include 335 in 2011 and 391 in 2012. Average number of queries answered per month in 2011 was 28 (SD ± 20.6) and in 2012 was 33 (SD ± 24.8). Consistency of the service was poor the number of queries answered per month range between zero to 92. Most of the May month is a vacation time and the center was not working. Protocol adherence increased in the study period. The highest level of adherence was seen in the months of April, August, October, and November in the year 2012. Customer satisfaction could be achieved above 85% in the months of April, August, September, October, and December of 2012.

Conclusion: The protocol adherence in the study center for drug information increased in the study period and thus was the customer satisfaction. Future studies could assess other measures of quality assurance of drug information services.

Keywords: drug information, protocol, adherence, satisfaction.

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1. INTRODUCTION

Drug information service is the provision of written and/or verbal information or advice about drugs and drug therapy in response to a request from other health care providers, organization, committees, or other related health care professionals and also proactively in case of important new evidences. The science and technology used is called as medical informatics or drug informatics [1].

There is an increase in the number of drug information centers and drug information publications in the recent time in India. The well-trusted drug information databases such as Micromedex, Lexi-comp, IDIS, and Clinical Pharmacology etc. started functioning in India on a larger scale. The provision of medical information is one of the most fundamental responsibilities of pharmacists. The information may be either patient specific, as an integral part of pharmaceutical care, or relative to the group of patients, such as the development of therapeutic guideline, optimizing drug use, publishing the electronic newsletter, or updating the web site. Pharmacists working in hospitals or in community pharmacies do deliver drug information services as part of their job responsibilities [2].

The specialized drug information centers seek to provide authentic, unbiased drug information to healthcare professionals; provide tailor-made counseling and drug information to patients / consumers as well as monitor and document adverse drug reactions within the hospital [3].

There is less number of professionals practicing as drug information specialists, most of them but need to be skilled in drug informatics while they practice dispensing. Poor implementation of drug regulation and lack of independent, unbiased drug information are some of the contributing reasons for irrational drug use in India. About 40% of the health care services budget is consumed by medicines and with a limited resource available, it is essential to promote rational drug use [4]. The higher patient load of clinician decreases the quality of health care delivery. There is less time for the clinicians to look into the evidences to support their practice. One of the most trusted sources of evidence is Cochrane collaboration database, which is freely available online in India, courtesy to Indian Council of Medical Research (ICMR) [5].

In an Indian study to evaluate of services provided by the Drug information center in a South Indian Tertiary Care Hospital in Kanchipuram District' the quality of the services provided by the Centre was appreciated by the majority of its users [6]. The drug information service, provided by Faculty of Pharmaceutical Sciences, Prince of Songkla University could cater the need of healthcare personnel, patients and others [7]. It highlighted on how important to document such type of activity which can be a vital quality assurance tool in the assessment of fictional requirements of DPIC. It was also necessary to increase the interest of health care professionals for the service of DPIC [8]. More information campaigns are needed to encourage people to use the services provided by the drug information service [9]. It is a common experience that working in a drug information center is not easy. However, the students of pharmacy learn quickly the art of providing accurate, unbiased & timely drug information by virtue of their training. The infrastructure facility, the skilled trainers, the access to Internet and the computer assisted functioning are some of the notable aspects of this Centre. The evaluation of students' performance, encouragement for physician participation and watchful monitoring of its progress may be needed [10].

The center remains a useful resource for healthcare professionals, particularly doctors in the Bangalore region it has branched out and started a hospital attached drug information sub-Centre at Victoria Hospital, Bangalore Since the DIC was established, there has been a steady increase in the number of inquiries indicating an increase in awareness of the center, as a source of unbiased drug information among doctors. Most of the query obtains from pediatric ward and most requesters are doctored from a private hospital. Area of interest of question is the product enquiry or identification of drug. Mostly used drug information resource is Micromedex. Most of the queries are received by email and telephone [11]. Most of the questions are about drug indication and drug therapy. Most of question answers personally [12]. The results of the feedback questionnaire from an Indian drug information study showed that most of the inquiries appreciated the quality of services provided and requested for a 24 hour round the clock service [13]. Another study also shown that majority of queries had satisfied through a small no. of secondary and tertiary information resources [14].

Our drug information center started in 2010 and working on providing unbiased drug information to the healthcare professionals and patients as part of the patient counseling service. It is highly essential to evaluate the quality and quantity of services for further improvement and to assess its applications in rational use of medicines.

2. METHODS

This is an observational quality assurance study of drug information services provided by the poison and drug information center of a rural South Indian hospital. The poison and drug information center was

established in 2010. In this study we focus only on drug information assessment as the number of poison information queries are far less compared to drug information. Another reason for exclusion of poison information is that in most instances it is delivered through phone or a fast email format which makes it difficult to document.

The study was performed for a period of two years starting from January 2011 to December 2012. In the beginning of 2011 the hospital under study has adopted essential list of medicines and reinforced rational drug use. Pharmaceutical marketing is not allowed in this charity hospital, so the health care professionals have to depend on the drug information services provided by the department of pharmacy practice.

The workforce of drug information service includes teachers and Pharm.D students. There were provisions for the health care professionals including doctors, nurses, pharmacists etc to approach drug information center and give the query. Or the drug information liaisons used to have their rounds in the hospital daily and collect the queries from the professionals. The services are free of charge. Working of the Center was affected by examinations and due to a major vacation in the month of May and a week long vacations in few other month.

For quality assurance purpose a scoring of 1-10 was given to each direction in the protocol. Only the months with at least 10 answers were included in this assessment. Decimal of 0.5 or above are rounded to the next number.

Only the months with more than 10 queries answered were processed to study the adherence to drug information protocol. Microsoft Excel file is used to process the data.

3. RESULTS

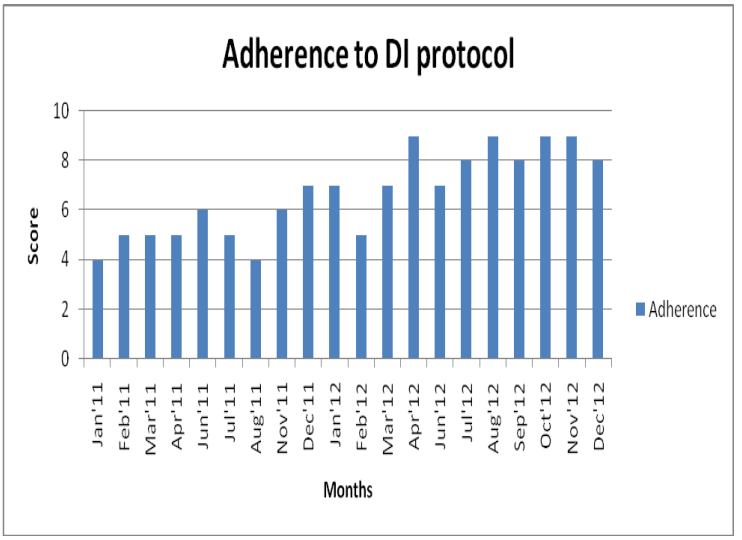
A total of 726 queries were answered in the study period which include 335 in 2011 and 391 in 2012. Month wise numbers of drug information is given in Table 1.

Average number of queries answered per month in 2011 was 28 (SD ± 20.6) and in 2012 was 33 (SD ± 24.8). Consistency of the service was poor the number of queries answered per month range between zero to 92. Most of the May month is a vacation time and the center was not working. Some other months were affected by exams reducing the time of work in drug information.

The protocol was developed for drug information service to standardize it. It was prepared by referring to the performance of other centers as well as considering the local needs. The extent of protocol adherence was scored out of 10. The results of adhering to protocol out of average 10 for different months in the study period are given in graph 1.

Sl. No.	Month/Year	Number of queries
1	Jan/2011	21
2	Feb/2011	55
3	Mar/2011	10
4	Apr/2011	21
5	May/2011	07
6	Jun/2011	30
7	Jul/2011	41
8	Aug/2011	33
9	Sep/2011	05
10	Oct/2011	00
11	Nov/2011	57
12	Dec/2011	55
13	Jan/2012	21
14	Feb/2012	68
15	Mar/2012	31
16	Apr/2012	20
17	May/2012	00
18	Jun/2012	32
19	Jul/2012	92
20	Aug/2012	36
21	Sep/2012	30
22	Oct/2012	21
23	Nov/2012	11
24	Dec/2012	29

Table 1: Number of queries answered in the study period



Only the months with at least 10 answering of DI queries were included.

Graph 1: Adherence to protocol for drug information service

Protocol adherence was on a rise invariably in the study period. Especially by the end of 2011 and in 2012 there were above average adherence to protocol. The highest level of adherence was seen in the months of April, August, October, and November in the year 2012.

It was part of the protocol to collect feedback from the enquirers. The numbers of feedbacks received keep increasing in the study period. Also there was an increase in the number of satisfied customers. Customer satisfaction could be achieved above 85% in

the months of April, August, September, October, and December of 2012.

Sl. No.	Month/Year	Satisfied	Need improvement	No feedback	Total
1	Jan/2011	07 (33.3%)	04	10	21
2	Feb/2011	24 (43.6%)	08	23	55
3	Mar/2011	05 (50%)	01	04	10
4	Apr/2011	09 (42.9%)	03	09	21
5	May/2011	-	-	-	07
6	Jun/2011	23 (76.7%)	02	05	30
7	Jul/2011	24 (58.5%)	05	12	41
8	Aug/2011	17 (51.5%)	04	12	33
9	Sep/2011	-	-	-	05
10	Oct/2011	-	-	-	00
11	Nov/2011	42 (73.7%)	07	08	57
12	Dec/2011	45 (81.8%)	03	07	55
13	Jan/2012	16 (79.2%)	00	05	21
14	Feb/2012	49 (72.1%)	02	17	68
15	Mar/2012	23 (74.2%)	01	07	31
16	Apr/2012	17 (85%)	00	03	20
17	May/2012	-	-	-	00
18	Jun/2012	25 (78.1%)	03	05	32
19	Jul/2012	78 (84.8%)	04	10	92
20	Aug/2012	33 (91.7%)	01	02	36
21	Sep/2012	27 (90%)	00	03	30
22	Oct/2012	18 (85.7%)	00	03	21
23	Nov/2012	09 (81.8%)	00	02	11
24	Dec/2012	25 (86.2%)	01	03	29

Only the months with at least 10 answering of DI queries were included for assessment.

Table 2: Feedback of DI queries answered

4. DISCUSSION

The drug information team was part of an academic institution. The drug information service was working with considerable quantity even though it was not consistent in ideal terms. There reasons for inconsistency could be lack of full time drug information pharmacists. The service was interrupted by vacations as well as exams. The health care professionals could send their queries through email, phone or in person to the center. The drug information liaisons used to make their rounds through clinical areas daily and request of queries if any. This method of active collection of queries improved the number of queries received to the drug information center.

As far as the quality was concerned the service was improving in terms of adherence to protocol and the satisfaction of the enquirers.

The key elements in protocol for drug information service were;

Providing drug information in printed format using departmental form,

Restrict the information to one page,

Providing information within one hour in case of urgent demand and within 24 hours otherwise,

Confidentiality need to be maintained of the enquirer,

Proper references need to be used,

Listed resources in the department for drug information need to be used,

Feedback from the enquirer need to be collected after answering.

Continuous monitoring and repeated reinforcing different aspects of protocol could be the reasons for improving protocol adherence in the study period. The center was able to achieve good adherence to protocol. Complimentary to improvements in protocol adherence, customer satisfaction was also improving. Especially in the last months of 2012 the satisfaction levels were high. Satisfaction is a very dynamic process and there could be immediate variations to that. But overall the customer satisfaction for drug information center was improved to good levels in the study period. The collection of feed backs also was improved, even though 100% was not achieved. So it could be stated that the drug information service provided was of good quality standards.

Consistent quality assurance measures improve the performance of drug information service. Without improving and maintaining quality service, there is no existence for drug information centers.

5. CONCLUSION

Protocols are important for standardized performance of a service. Drug information service need to be systematic and scientific, so the study center has implemented an ideal protocol was consensus decision and it was found that the good adherence to the protocol could be achieved in a reasonable time. As the adherence to protocol improved customer satisfaction was also improved. Future studies could focus on other aspects of quality assurance of drug information services.

6. REFERENCES

1. Judith MB, Helan M, Alen S, Graeme V, Susan F, Rodney W, et al. SHPA Standard for practice of drug information services. Australian journal of hospital pharmacy. 1999; 29(3):171-176.
2. Kelly MS, Elaine L. Drug information resources. In: Patrick MM, Karen LK, john ES. eds Drug information – A guide for pharmacist. 3rd ed. International edition: McGraw-Hill, 1996;61-95.
3. Thomas D, Seeba Z. Drug Informatics to Promote Pharmacy Profession in India. IJMI. 2010;5(1):3.
4. Kalra MA, Pakhale SP, Khatak B, et al. for the Drug Information Centres - Need of the Hour. International Pharmaceutica Sciencia. 2011; 1(1): 69-76.

5. Rajendran SD. Drug Information. In: parthasarthi G, Karin NH, Milap CN. eds. A Textbook of clinical pharmacy practice – Essential concept and skills. 1st edition. India: Orient Longman Private Limited. 2005; 268-267.
6. Rajanandh MG, Ruby V, Ramasamy C. for the Assessment Of Drug Information Services In A South Indian Tertiary Care Hospital In Kanchipuram District International Journal of Pharmacy and Pharmaceutical Sciences. 2011; 3(3): 273-276.
7. Payom W, Chananphim P, Phimrada R, et al. Evaluation of Drug Information Service via http://drug.pharmacy.psu.ac.th. Silpakorn University Science and Technology Journal. 2010; 4 (1): 8-14.
8. Yousif AA, Mohammed NA, Mohammed S, et al. Evaluation of drug and poison information centre in Saudi Arabia during the period 2000-2002. Saudi Medical Journal. 2007; 28 (4): 617-619.
9. Ansam F. Sawalha. Poison Control and the Drug Information Centre: The Palestinian Experience Israel Medical Association Journal. 2009; 10: 757-760.
10. Suresh CP. The performance of drug information centre at the university of Kansas medical centre, Kansas city, USA - experiences and evaluations, Indian Journal of Pharmacology. 2002; 34: 123-129.
11. Lakshmi PK, Gundu Rao DA, Gore SB, et al. Drug Information Services to Doctors of Karnataka, India. Indian Journal of Pharmacology. 2003; 35: 245-247.
12. Joshi MP, For the Drug Information Service at Teaching Hospitals in Developing Countries, Indian Journal of Pharmacology. 1998; 30: 1-5.
13. Venkatraghavan S, Rama M, Leelavathi DA. Performance of a drug information centre in a South Indian teaching hospital. International Journal of PharmTech Research. 2010; 2 (1): 390-403.
14. Meena S. One year experience of drug information service in the NGO sector, Indian Journal of Pharmacology. 2001; 33: 44-45.