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Research Article

DRUG INFORMATION SERVICES TO HIV/AIDS CARE AND SUPPORT CENTRE IN RESOURCE LIMITED SETTINGS

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ABSTRACT

Drug information services are considered as a major resource to provide patient counseling in clinical basis and to provide pharmaceutical care to improve rational use of medicines. In India, the drug information services are usually provided by the pharmacists those who are servicing in academic institutions and hospitals. Quality assurance is an important process required for continuous development and improvement. Hence, the present study was conducted to evaluate drug information services provided by clinical pharmacist of pharmacy practice department to HIV/AIDS care and support center in a resource limited settings. Drug information Queries received by the center was answered by clinical pharmacist of pharmacy practice department after analyzing by using modified systematic approach for their completeness, straight forwardness, reliability of answers and the reliability of references used to answer the queries from both the providers and receivers perspective. Over all it was observed that our drug information services are useful for health care professional in their clinical practice. As a part of pharmaceutical care the drug information service, provided by our pharmacy practice department could serve the need of health care professionals for better patient care were acceptable.

Keywords: Pharmaceutical care, Drug information, Quality assurance.

INTRODUCTION

Drug information services are considered as a major resource to provide patient counseling in clinical basis and to provide pharmaceutical care to improve rational use of medicines. [1]

Drug information is the service that includes the activities of providing current, unbiased, critically evaluated information in response to patient oriented problems in health care workers. up to now there are plenty of new drugs and different drug delivery systems has been discovered which makes difficult task for the health care workers to select and optimize the drug usage among individuals.[2] In India the drug information services are usually provided by the pharmacists those who are servicing in academic institutions and hospitals by establishing drug information centers. Quality assurance of drug information can be defined as procedures, which are used to set, promote, maintain and monitor the desired standards for services and Peer review which is an essential method for assessing the quality and effectiveness of the Drug Information Centre service. It will give an idea to improve the drug information service in future [3]

There are few literatures reported that lack of time is considered to be a major factor for the physicians to update their knowledge which results in increased demand for independent unbiased drug information service for better quality patient care. [4]

The present study site is a secondary care district hospital situated in rural part of Andhra Pradesh, where the pharmacy practice department has been established and providing various services, this study was undertaken to evaluate the quality of drug information services by clinical pharmacist in the pharmacy practice department to HIV /AIDS care and support center of the hospital even though pharmacy practice services are extended to whole hospital the present study focused only on HIV/AIDS care and support center because HIV/AIDS is chronic disease hence it involves long term medications for disease and co – morbidities so, patient may take numerous drugs and frequently undergo medication changes which may results in medication errors and other drug related problems and adherence is an another problem where the drug information service may decrease those problems in these group of patients. [5]

The present study was conducted to evaluate the various drug information queries received, quality of the service and the user's satisfactions on the service provided by clinical pharmacist to HIV/AIDS care and support center in a rural settings.

METHODOLOGY

This is a prospective, observational study aimed to evaluate the quality of drug information services provided to HIV/AIDS care and support center of RDT hospital Bathalapalli, Andhra Pradesh, India for the period of 18 months from February 2011 to October 2012 by clinical pharmacist of pharmacy practice department. The present study was approved by institutional review committee. The hospital belongs to a non-governmental organization called Rural Development Trust and provides health care free of cost to patients living with HIV/AIDS and the pharmacy practice department was established in this hospital in the year 2010 with a view of providing drug information services as a part of pharmacy practice activities and the services was extended throughout the RDT hospital and to the district of Anantapur, Andhra Pradesh, India ant the queries are answered by clinical pharmacist of pharmacy practice department to HIV/AIDS care and support center. The answered queries were analyzed by expert panel, using modified systematic approach [6] for their completeness, straight forwardness, reliability of answers and the reliability of references used to answer the queries.

Table 1: Modified systematic approach for answering drug information queries [6]

Step I. Secure demographics of requestor
Step II. Obtain background information
Step III. Determine and categorize ultimate question
Step IV. Develop strategy and conduct research
Step V. Perform evaluation, analysis and synthesis
Step VI. Formulate and provide response
Step VII. Conduct follow-up and documentation

Feedback form was distributed to drug information enquirers servicing in HIV/AIDS care and support center of this hospital and their responses were evaluated. Quality control questionnaire were used to analyze the drug information queries from providers perspective.

For completeness, each answer of the queries was scored 1 or 100 % if it is complete and reliable and if not it was scored as 0 or 0 %. For straightforwardness, the answers of each question was given a score from 1 to 5 where 5 (1 or 100%) indicates excellent straightforwardness, 4(0.8 or 80%) indicates very good, 3(0.6 or 60%) indicates good, 2(0.4 or 40%) indicates for adequate and 1(0.2 or 20%) for poor.

For reliability and suitability between the references used and the category of questions was checked by the arbitrary fixed before.

RESULTS

Total of 681 queries were received by pharmacy practice department of this hospital during the study period out of it there were 64 queries from HIV/AIDS care and support center and around 8 queries were about antiretroviral drugs the remaining queries were related to antibiotics, antiviral drugs, steroids and antihypertensives etc. Most of the queries were received from nurses, around 18.75 % of queries were received from the consulting physicians and also two queries from pharmacists. All of the queries were received through direct mode and during ward rounds except one which was received by telephone.

Only a few queries have been answered by standard procedure such as modified systematic approach. Most of the queries were received through telephone the categories of queries were most commonly about dosage and administration of drugs, adverse drug reactions & mechanism of action etc. The classification of drug information queries and their categorization was given in Table 2

Table 2: Classification and categorization of drug information queries

S.No	Category	No. of query (%)
1	Status of enquirer	
	• Physicians	• 12 (18.75)
	• Nurses	• 50 (78.12)
	• Pharmacist	• 2 (3.125)
	• Others	• 0 (0)
2	Mode of request	
	• Ward rounds	• 24(37.5)
	• Direct access	• 49 (76.56)
	• Telephone	• 1 (1.56)
	• Email	• 0 (0)
3	Purpose of query	
	• Update of knowledge	• 48 (75)
		• 12(18.75)
	• Better patient care	• 4 (6.25)
	• Others	
4	Moe of reply	
	• Written	• 0 (0)
	• Verbal	• 3 (4.68)
	• Printed format	• 61 (95.31)
5	Type of query	
	• Choice of drug and drug therapy	• 21(32.8)
	• Adverse drug reactions	• 16 (25)
	• Dose and dosage regimen	• 18 (28.12)
	• Availability	• 9 (14.06)
	• Others	• 0 (0)

Most frequently subscribed database like www.clinical pharmacology.com (provided by Elsevier) and internet were used to search for literatures and other required information to answer drug information queries apart from this other standard references were also used and they were tabulated in Table 3

Table 3: Frequency of references used for answering drug information queries

- www.Clinicalpharmacology.com (Data base series) / Elseveir – Gold standard
- Good man and Gilman's, The pharmacological basis of therapeutics, 10th edition Mc Graw hill publications, 2001.
- McEvoy KG, Snow KE, AHFS drug information, American society of health system pharmacist, 2008.
- Remington's pharmaceutical sciences – The science and practice of pharmacy, 21st edition, Lippincott Williams & Wilkins, 2007.
- Karen Baxter, Stockley's drug interactions, 7th edition, pharmaceutical press, 2006.
- Helms AR,Quan TD, Herfindal TE, Textbook of therapeutics – drug and disease management,8th edition, Lippincott Williams & wilkins,2006.
- Parfitt K, Martindale: The complete drug reference 33rd edition, pharmaceutical press, 2002.
- Rang and Dale's pharmacology, 6th edition, Churchill livingstone - Elseveir, 2007.
- Current index of medical specialties, India,
- Indian drug review – Indian drugs and pharmaceutical industry.

Feedback based from receiver's perspective

Total of 64 feedback forms were distributed to the all query enquirers and their responses were taken which shows that the respondents were aware about drug information services in our hospital but only 42% of the respondents only knows phone number or email of our drug information service center. The present study also reveals that 85% of the query enquirers attempted to approach our drug information service for first time. it also shows 96% of the respondents received their answer in time and 8 % of the respondents stated that they received an inappropriate answer most frequent reason stated was too extensive answer. 85 % the respondents stated that drug information services are useful in their clinical practice and 70% of respondents mentioned that performed drug information services were good. 22 and 8 % of respondents mentioned that drug information services performed were satisfactory and need an improvement respectively. There were some suggestions by the respondent which include asked for drug profile information at a regular interval for newer drugs introduced in the market. Results of feedback were tabulated in Table 4.

Table 4: Response to feedback questionnaire by drug information enquirers

S.No	Feedback questions	Response (%)
1	a. Are you aware of the phone number or email of drug information services in our hospital?	
	• Yes	• 42
	• No	• 58
2	a. Have you contacted our drug information services before?	
	• Yes	• 15
	• No	• 85
	b. If yes, have you received the answer in time?	
	• Yes	• 96
	• No	• 4
	c. Have you received an appropriate answer?	
	• Yes	• 92
	• No	• 8

	d.	If no, the reason was, the information was	
		• Out dated	• 0
		• Too extensive	• 75
		• Not relevant	• 12.5
		• Others	• 12.5
3	a.	Do you think drug information services are useful in clinical practice?	
		• Yes	• 85
		• No	• 15
4	a.	How do you rate the existing drug information system in our hospital?	
		• Good	• 70
		• Satisfactory	• 22
		• Need improvement	• 8

Feedback based from provider's perspective

Quality control questionnaire has been mentioned in Table 6 and grading was done as per the criteria out of 64 answers to the queries 48 were graded as good and 13 as very good and the remaining were graded as fair. Overall assessment of answers to drug information queries were given in terms of percentage and mentioned in Table 5.

Table 5: Overall assessment of answers to drug information queries

S.No	Category	Mean score (%)
1	Completeness	88
2	Straight forwardness	92
3	Reliability of answers	91
4	Reliability of reference used	78

Table 6

Quality control questionnaire: [8]

1.	The demographics of the requester is obtained	Y/N
2.	Appropriate back ground information obtained	Y/N
3.	Resource consulted is quoted	Y/N
4.	Adequate resources consulted	Y/N
5.	Critical evaluation of the answer obtained is done by the pharmacist	Y/N
6.	Was the answer give in the specified time	Y/N
7.	Was the answer given based on the enquirers need	Y/N
8.	Proper documenattion was done	Y/N
9.	Follow up was done	Y/N

- Poor < 50
- Fair 51 - 60
- Good 61 - 70
- Verygood 71 - 80
- Excellent > 81

DISCUSSION

The main objective of our drug information service is to improve the patient care by giving quality information about drugs, clinical pharmacists are well specialized in pharmaceutical care services like drug information services to manage public health burden.

The concept of our drug information service is to provide unbiased information about the drugs and to provide better patient health care preferably in a resource limited settings. The goals are to increase quality health care by providing evidence based up to- date knowledge to various kinds of health experts included those who are doing service in HIV/AIDS care and support center. Our study results shows that there were frequent queries which have been received by our drug information service at a regular interval from HIV/AIDS care and support center which necessitates the unbiased and critically evaluated information. it shows that most of the queries were received either through direct contact or during ward rounds which implies that clinical pharmacist needs to be easily accessible to other health care professionals in this settings.

It also implies to educate health care professionals of HIV/AIDS care and supportive center about the facilities which are available to ask drug information queries like email or telephone because the queries were asked through this mode is very less and even feedback shows that most of the people have no awareness about this.

Results of Fewer studies states that drug information queries were about dosage and administration [7] similar results were obtained in our study also. Text books, electronic databases and internet source were used frequently to answer drug information queries may be due to ease of access.

Quality assurance is an important process required for continuous development and improvement of any kind of service or program. Feedback of receiver perspective of our drug information service shows that the query enquirers are receiving their answers appropriate and in time and feedback of provider's perspective it was good. Overall it was graded that our drug information service for HIV/AIDS care and support center was acceptable and still it needs an improvement in some aspects like obtaining background information, providing critically evaluated information and answers to be given based on enquirers need.

CONCLUSION

As a part of pharmaceutical care the drug information service provided by the clinical pharmacist of our pharmacy practice could serve the need of health care professionals for better patient care and it is important to create awareness of these services to the health care professionals servicing for HIV/AIDS patients in resource limited settings to utilize these services.

REFERENCES

1. Yamamoto T, Yuda T, Arimoto A, Ei Sejima, Kawahara Y, Washiyama A, Futagami K. Evaluation of practical training programme for drug information services for fifth year pharmacy students in a hospital, The pharmaceutical society of Japan.2011;131(11): 1621- 1628
2. Wongpoowarak P, Phengchuai C, Rattanachamit P, Kaewmanee M, Konsuparp S, Wongpoowarak W, Boonme P, Evaluation of Drug Information Service via

http://drug.pharmacy.psu.ac.th, Silpakorn U Science & Tech J.2010; Vol.4(1):8 – 14

3. Vijayakumar TM, Poovi G, Dhanaraju MD, Opinion On Drug Information Services Provided In A Multi- Specialty Teaching Hospital. Archives of Pharmacy Practice. 2011; 2(2):57-59
4. George B, Padma GM Rao. Assessment and Evaluation of drug information services provided in a south Indian teaching hospital. Indian J Pharmacol, 2005; 37(5):315-318
5. Heelon M, Skiest D, Tereso G, Meade L, Weeks J, Pekow P, Rothberg MB, Effect of a clinical pharmacist's interventions on duration of antiretroviral-related errors in hospitalized patients. Am J Health-Syst Pharm.2007; 64:2064-8
6. Kirkwood FC, Kier LK modified systematic approach to answering questions. In: Malone MP, Kier LK, Stanovich EJ, Drug information - A guide for pharmacists.3rd ed.NewYork: Mc Graw Hill publications; 2006; 30.
7. Nibu P, Ramesh M, Parthasarathi G, review of drug information service in an Indian teaching hospital. Aus journal of hospital pharmacy.2001; 2:144-5
8. Sam K G , Rajan M S V, Saghir Z, Kumar P, Rao P. Evaluation of poison information services of a clinical pharmacy department in a south Indian tertiary care hospital. Journal of Clinical and Diagnostic Research. 2009; 3:1313-1318