



Services provided by Drug and Poison Information Center in RMI, Peshawar

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ABSTRACT

The study was conducted to estimate the queries received from different wards, pharmacies and from areas Outside RMI, and to assess quality of service provided by department of pharmacy Rehman medical institute Peshawar. The caller calls DPIC By dialling extension 3131 or direct phone 091-5838031, received by pharmacist documented in form prepared by department of pharmacy. At the end of each shift put the data from these forms into excel sheet. Data from excel sheet were retrospectively evaluated from August 2014 to August 2015 for various parameter like type of queries, caller, etc. A total of 5194 queries received over a period of 13 months. Highest in the month of June-2015 while that of lowest number of queries received in the month of Aug-2014. Caller with different specialty like consultants, Pharmacist, staff nurse and medical officer, of whom the percentage of medical officers were highest i.e. 35.12%, while the lowest for technician i.e. 0.27%. The most frequent queries received by DPIC were for generic/brands 20.54% while for alternate, contraindication, drug-drug interaction, adverse drug action, pregnancy/lactation and Indication, were 7.91%, 0.48%, 0.94%, 1.23%, 1.58%, 5.74%, respectively. Answer to all queries was given by pharmacist within an average of 2 minutes per response. The drugs and poison information center at Rehman medical institute providing information regarding utilization of drugs and poison management asked by health care professional practicing at Rehman medical institute and outside, up- hillling toward better patient care.

Keywords: Drug; Poison; RMI

INTRODUCTION

Rehman medical institute is one of the largest leading tertiary health care institutes situated close to Khyber Pass. Establishment of organization like RMI the citizens of KPK take advantage for the first time from health care facilities under international standard. Prof. Dr. Muhammad Rehman a well-known Pakistani cardiac surgeon is the owner of this institute (1). This institute provides the majority of modern tertiary care to the patients. Currently RMI is 450 bedded hospitals and planning to extend services for almost 600 indoor patients in future (2). The mission of RMI is providing valuable health care to patients and provides best opportunities for education and training to students of different professions like MBBS, Nursing, and Pharmacy students. In out patient's consultation more than 70 clinics occupied by consultant of different specialty providing consultation both in evening and morning shift. Besides this quality inpatients room are available for bed ridden patients covered by highly quality nursing staff in each units along with allied medical staff round the clock. Besides all those facilities hospital established a well-developed pharmacy department staffed by highly qualified pharmacists. Pharmacy service include inventory control, proper storage, dispensing, compounding services, maintaining floor stock at different unit to in patients and patient counselling services by highly qualified and competent pharmacists. Besides this pharmacy department also offer education and training opportunities to resident pharmacist as well as to intern pharmacist. Pharmacy department establish a drug and poison information center in August 2013 to provide medication related information and to manage poison cases. DPIC is a service provided by qualified and competent pharmacist. It is very difficult for health care provider to remember all the issues related to drugs like indication, adverse effect, contraindication, dose,

dosage form, drug interaction and so many other parameters related to patients treatment. Keeping in view all these issues drug and poison information established which provide relevant information to those health care professional who need in emergency or on urgent base (3, 4). A survey was conducted on national base in Pakistan in which the 2nd commonest reason of accidental injury was poisoning which was mostly found in population of having age 5 year or less than 15 years(5). In most of the developed and developing countries due to absence of facilities like drug information and limited time are common factors which make the physician and consultant unable to update their knowledge about new updates related to drugs which ultimately lead to irrationality and poor quality of patient care (6-7). The most competent and highly qualified pharmacist is responsible for this to provide all information regarding medicines to all health care professional. Different references are utilized by pharmacist in DPIC to solve the quires like tertiary sources, Micromedex databases, textbooks of Lexi-comp and BNF updated internet sites and periodicals. At DPIC received thousands of queries related to drug and poison and deal by pharmacist in very well way by answering in satisfactory way for the better patient care.

METHODOLOGY AND SETTING

It is a retrospective study performs on the data taken from DPIC at Rehman Medical Institute (RMI) Peshawar. In DPIC queries received from caller are properly answered within specified time using authentic references and logged in pre-printed query answering form. The form includes column for form number, caller specialty, type of query, time taken to answer, mode of reply, references used to answer and name of on duty pharmacist. At the end of each shift the data compiled using Google form by on duty pharmacist. Then at the end of each month the data is extract from Google form and further evaluated for statistical reason.

In this review data of 13 months were taken from DPIC and were analyzed, four tables were designed in excel sheet. For statistical purpose the data were then processed in SPSS sheet and p-value were then determined and all of them were significant.

RESULTS AND DISCUSSION

It is a retrospective study performed in a tertiary care hospital. In this data of 13 months i.e. from August 2014 to August 2015 was collected from Drug and poison information center (DPIC) consisted of in which 5194 queries that was analyzed and different tables were formed as follow.

Number of queries per month (Table 1)

This shows variable number of queries came to DPIC each month. In “August-2014 187(3.60%)” queries were resolved in DPIC, in “September-2014 330(6.35%)”, in “October-2014, 411(7.92%)”, in “November-2014 417(8.02%)” while in “December-2014 434(8.35%)” queries were resolved. In” January-2015” the number of queries resolved was “394(7.58%)”, in “February-2015 426(8.20%)”, in “March-2015 418(8.04%)”, in “April-2015 328(6.31%)”, in “May-2015 499(9.60%)”, in “Jun-2015 635(12.22%)”, in “July-2015 396(7.62%)”, and in “August-2015 319(6.14%)” queries were resolved and answered.

Table 1: Number of queries per month

Month	Number of queries	Frequency	p-value
Aug-14	187	3.60%	0
Sep-14	330	6.35%	
Oct-14	411	7.92%	
Nov-14	417	8.02%	
Dec-14	434	8.35%	
Jan-15	394	7.58%	
Feb-15	426	8.20%	
Mar-15	418	8.04%	
Apr-15	328	6.31%	
May-15	499	9.60%	
Jun-15	635	12.22%	
Jul-15	396	7.62%	
Aug-15	319	6.14%	
Total	5194	100%	

P= 0.0188, <0.05, Significant

In all these the lowest number of questions was received in August-2014 that is 187 while in Jun-2015 highest numbers of queries were received that is 635.

Differentiation on the basis of caller (Table 2)

From every department of the hospital queries come to DPIC and resolved. Here queries are classified on the basis of calling person that is asked at the time of request from each person and documented in the pre-designed

form. Here maximum calls were received from Medical Officers of the hospital that 35.12% and lowest number of calls were received from technicians that is 0.27%. In this hospital requests from outside like from other hospitals as well as from the community were received and were resolved that is 188 (3.62%) over a period of 13 months. This shows that RMI also provide DPIC services to the community as well.

Table 2: Differentiation on the basis of caller

Consultant	No : of quires	Percentages of quires	p-value
Consultant	670	12.90%	P= 0.0188, <0.05, Significant
Medical Officer/TMO	1824	35.12%	
Nurse	833	16.04%	
Other Staff	130	2.50%	
Others	188	3.62%	
Patient	139	2.68%	
Pharmacist	1352	26.03%	
Technician	14	0.27%	
unknown	44	0.85%	
Total	5194	100.00%	

Type of Query to DPIC (Table 3)

In this table it is shown that which type of query were asked during this period of time and how much frequently that was asked. Most frequently asked queries were that of Brands/Generic (20.54%), Availability (18.08%), Dose (11.21%), Strength and Dosage form (11.01%). The lowest number of queries was that of compounding information that is 0.25%.

Table No. 3 Type of Query/Question to DPIC

Type of quires	Number of queries	%age	p-value
Administration	233	4.49%	0.0001
Alternate	411	7.91%	
Availability	939	18.08%	
Brand/Generic	1069	9.86%	
Compounding information	13	0.25%	
Contraindication	25	0.48%	
Dosage	176	3.39%	
Dose	582	11.21%	
Dose adjustment	81	1.56%	
Drug dilution	141	2.71%	
Drug interaction	49	0.94%	
Indication	298	5.74%	
Mechanism of action	27	0.52%	
Over Dose/ Toxicity	35	0.67%	
Patient counseling	53	1.02%	
Pharmacokinetics	30	0.58%	
Pregnancy/Lactation	82	1.58%	
Side effects/ ADR	64	1.23%	
Storage/Stability/Price	184	3.54%	
Strength/Dosage form	572	11.01%	
Warning/Precaution	125	2.41%	
Others	5	0.10%	
Total	5194	100%	

P-value 0.0001

Resources used (Table 4)

In DPIC each and every call is answered from a valid and authentic resources. After listening each call the query is noted the type of query is mentioned and the specified resources are reviewed for that query. For example administration of drugs are answered from "Lexi-comp" (that is 233), Alternatives are checked from "Pakistan Parma-guide online" (that is 411), Availability of medicine is checked from "Hospital Formulary" (it is 939), Brands and generics are checked in "Pharma-Guide Online/ Drug Info -system Online" (that is 1069), information about Compounding is provided from "Extemp.ie.compounding info" (that is 13), Contraindications is checked in "Lexi-Comp and BNF" (that is 25), Information about Dosage is from "Micromedex Online/ Lexi-comp" while that of Dose and Dose adjustment is from "Lexi-Comp and BNF"(176, 582 and 81 each respectively), Drug dilution information from "Global RPH online and Lexi-Comp"(that is 141), Drug Interactions is from "Stockley Drug Interaction Hand Book/Medscape Drug Interaction"(that is 49), Information

about Indication of drug and Mechanism of action of drug is provided from “BNF and Lexi-Comp”(298 and 27 each respectively), Over Dose and Toxicity is answered from “Poison and Toxicology Handbook”(that is 35), Patient Counseling is from “Lexi-Comp and Micromedics”(that is 53), Pharmacokinetic parameters is from “Applied Clinical Pharmacokinetics/Lexi-comp”(that is 30), Pregnancy and Lactation recommendations and Side Effects and Adverse Drug Reactions are checked from “Lexi-Comp and Medscape”(82 and 64 each of that respectively), Storage, Stability and Prices are checked from “Lexi-Comp and Pakistan Pharma-guide Online”(184 that are), Strength and Dosage forms are from “Pakistan Pharma-guide Online and Drug Info-System Online”(that are 572), While Warning and Precautions are answered from “BNF and Micro-medics”(125 that are). There are also some queries which are mentioned as other (5 that are) having different and rare resources used for, which are not mentioned in this work. Total calls/Quires received and answered in this duration of 13 months are 5204 and discussed here.

Table 4: Resources used

Type Of Query	Resources Used	Frequency	p-Value
Administration	Lexi-comp	233	P=0.0006, <0.05, Significant
Availability	Pharma-Guide online	411	
Brands and Generic	Formulary	939	
Compounding information	Pharma-Guide Online/ Drug Info -system Online	1069	
Contraindication	Extemp.ie.compounding info	13	
Dosage	Lexi-Comp/BNF	25	
Dose	Micromedex Online/ Lexi-comp	176	
Dose Adjustment	Lexi-comp/BNF	582	
Drug Dilution	Lexi-comp/BNF	81	
Drug Interaction	Global RPH Online/Lexi-comp	141	
Indications	Shockley Drug Interaction Hand Book/Medscape Drug Interaction	49	
Mechanism of Action	BNF/Lexi-comp	298	
Over Dose and Toxicity	BNF/Lexi-comp	27	
Patient Counseling		5	
Pharmacokinetics	Poison and Toxicology Handbook	35	
Pregnancy and Lactation	Lexi-comp/Micromedics	53	
Side Effects/ ADRs	Applied Clinical Pharmacokinetics/Lexi-comp	30	
Storage, Stability and Price	Lexi-comp/Medscape	82	
Strength and Dosage Form	Lexi-comp/Medscape	64	
Warning and Precautions	Lexi-comp/Pham guide online	184	
Other	Pham guide online/Drug Info-System online	572	
Total	BNF/Micro-medics	125	

P=0.0006, <0.05, Significant

CONCLUSION

The importance of Drug and poison information centre cannot be ignored in any setting and it is a lifesaving area. Pharmacist plays a key role by providing the most relevant and well referenced information regarding use of medication to the health care provider as well as to the community.

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