Indian Journal of Pharmacy Practice., 2026; 19(1):46-54.
https://www.ijopp.org

Original Article

Role Vitalized by Clinical Pharmacists in Drug Information Services: A Cross-Sectional Analysis in a Tertiary Care Hospital

Eldho Mathew Paul[1], Sneha Joy[1], Emi Rose Abraham[1,*], Dinu Varghese[1], Susan John[2], Jibin John[1], Janet Maria James[1]

[1]Department of Clinical Pharmacology, Rajagiri Hospital, Aluva, Kerala, INDIA.
[2]Department of Clinical Epidemiology, Rajagiri Hospital, Aluva, Kerala, INDIA.

ABSTRACT

Objectives: To analyze the pivotal role of clinical pharmacists illustrated via their expertise in drug information services and to justify the crucial need to establish structured drug information centers for upgrading quality of patient care. **Materials and Methods:** A comprehensive cross-sectional analysis conducted at the Department of Clinical Pharmacology and ADR monitoring center of a tertiary care hospital, from July 2019 to June 2024, elucidated the query patterns and assessed the impact of clinical pharmacists on therapeutic decision making. **Results:** The study findings underscored a profound correlation between clinical pharmacist's interventions and the growing number of information utilizers. Prompt and evidence-based responses were facilitated which delivered informed clinical judgments and aided in mitigating medication errors. Notably, the inquiry revealed a preponderance of queries pertaining to pharmacotherapy and pharmaceuticals, with physicians and nurses being the primary beneficiaries of this service. **Conclusion:** This research highlights the indispensable contribution of clinical pharmacists to drug information services, emphasizing the imperative need for structured drug information center at hospital to promote judicious prescribing practice, ensuring medication safety, and optimize patient well-being by reaching out to the general public.

Keywords: Clinical pharmacists, Drug information services, Rational prescribing, Evidence based practice, Clinical decision making, Health-care quality.

Correspondence:
Dr. Emi Rose Abraham
Pharm D, Clinical Pharmacist, Department of Clinical Pharmacology, Rajagiri Hospital, Aluva, Kerala, INDIA.
Email: emiabraham7@gmail.com

Received: 14-03-2025;
Revised: 27-05-2025;
Accepted: 03-07-2025.

INTRODUCTION

The health-care structure has undergone a profound change, necessitating a progressive shift in the role of clinical pharmacists. The emphasis has transitioned from mere dispensing of medications to a patient centered approach, focusing on medication optimization, safety and efficacy. Clinical pharmacists as medication therapy experts, play a significant role in ensuring rational drug utilization and evidence-based practice to go hand in hand. In this complex and dynamic milieu of tertiary care hospitals, where poly-pharmacy and multifaceted patient cases prevail, the requirement for accurate, reliable, and timely drug information is paramount. One of the core professional duties of all pharmacists is to provide Drug Information (DI). Information on drugs might be population-based (to help with the decision-making process for evaluating medicine use for groups of patients), patient-specific, or academic (for educational purposes). Enhancing the quality of patient care, improving patient outcomes, and ensuring the wise use of resources are the objectives of offering thoroughly considered, evidence-based recommendations to support certain medication-use practices.[1] Clinical pharmacists, with their proficiency in pharmacotherapy, pharmacokinetics and pharmacodynamics, are uniquely positioned to address medication related challenges, combat risks and maximize patient outcomes. Another important duty of a clinical pharmacist is to provide objective, current information on any facet of drug use. They can give details about the brand, price, strength, and availability of medicinal formulations. They include details on the empirical dosage of medications for patients with impairment of renal or hepatic function.[2] Therefore, drug information service run by trained clinical pharmacists facilitates the prevention of medication errors, adverse drug reactions and therapeutic duplication, ultimately upgrading patient safety and quality of life.

Worldwide, medication related errors account for 5% to 41.3% of all hospital admissions and 22% of re-admissions post discharge. The incidence of medication errors is 30% greater in patients

DOI: 10.5530/ijopp.20260380

prescribed five or more medicines and 38% higher in those 75 years of age or older. Patients 65 years or above experience nearly twice the medication related admissions compared to their younger counterparts.[3] The above ratios give rise to a compelling need of pharmacological expertise which is leveraged via clinical pharmacists. The rationale of the study is to gain a deeper insight into the contributions of clinical pharmacists in collaborating evidence based medical practice and rational drug utilization and imparting the same. The findings of this analysis notably impact the need for developing effective strategies globally for optimizing drug information services, to eventually improve the quality of medical care. In developing countries the scarcity of reliable drug information persists due to insufficient access to drug information resources and inadequate documentation and dissemination of drug information. This disparity is particularly pronounced in India, where existing drug information centers face numerous challenges, including funding constraints, inadequate trained personnel and limited access to research-based information on drugs and therapies. The consequences of these short comings stretch afar, resulting in biased and incomplete information that can compromise with patient outcomes and Pharmacoeconomic decisions.[4]

However, despite the crucial importance of drug information services, there is a scarcity of hospitals having structured drug information centers. Furthermore, the neglect in utilizing clinical pharmacists for responding to drug queries, in such hospitals, thereby hinders optimal quality of patient care. Such a concern along with the lack of established drug information centers raises the need for an investigative research. A deficit of studies aimed at elaborating the influential part of clinical pharmacists in drug information services, along with the critical necessity of established Drug Information Centers (DICs) in health-care settings is a red flag demanding scrutiny.

MATERIALS AND METHODS

An epidemiological review was conducted at the department of Clinical Pharmacology and Adverse Drug Reaction (ADR) monitoring center of a 570 bedded tertiary care hospital. The study incorporated recorded pharmaceutical inquiries which were processed and resolved by clinical pharmacists between July 2019 and June 2024. All resolved queries were included, whereas inquiries remaining unanswered due to inaccessibility or incorrect communication details were excluded. A cross-sectional analytical assessment evaluated key performance indicators, including requester demographics, query and response time span, year wise trend of inquiries and the types of drug information sought along with their periodicity. A Drug Information Request Form (DIRF) was deployed for gathering information from the perspective of clinical pharmacists with regard to details on query received and response provided. The DIRF included data pertaining to date and time of the enquiry along with the date and time of the response provided, designation of the requester, type of request, patient identification number, details of the enquiry and the reply provided. The Inquiries received during ward rounds, as phone calls, directly in-person, and written were taken up for the study. The services were provided on a 24 hr basis. Retrieved data were compiled in a Microsoft excel spreadsheet and subjected to descriptive statistical analysis, incorporating frequency distributions expressed as percentages to elucidate key trends and outcomes.

RESULTS

Inquiry categorization

An analysis of 8811 drug information queries revealed a diverse range of categories (Figure 1). Product information comprised the largest share with, 3905 queries related to brand composition or content and 1318 queries for brand substitution. Inquiries regarding availability (245), therapeutic use (746), and dosage information (637) were also prominent. In addition, 84 adverse drug reactions, 69 drug interactions and 22 pregnancy/lactation safety concerns amounted to clinical safety issues. Furthermore, factors like stability/storage and dilutions were also prevalent, accounting for 554 and 668 of queries respectively. Administration related (439), cost related concerns (7) and pharmacokinetic considerations (7) comprised the remainder, with 110 queries categorized as miscellaneous (Drug classification, Mechanism of action, Institute for Safe Medication Practices guideline for high alert medicines, etc.,).

As evident from the above metrics, an increasingly major portion of the queries corresponded to brand composition or pharmaceutical content related concerns (44.5%), and the very least of queries accounting to about 7% were with regard to pharmacokinetics and cost estimations of pharmaceuticals. Moreover, the percentages of request types, highlights the areas to be focused with respect to improvement in the services availed.

Interpretations from Table 1 exhibit a massive drop in the number of brand composition inquiries throughout the years. It also directs to the probability of having an experienced set of health-care system workforce aware on medicine content. Nevertheless, looking onto the annual split perspective of drug information queries, there's an interesting growth in the queries regarding dilution, therapeutic use and stability towards the end of time frame. This indicates enhanced involvement of clinical pharmacology practice in day-to-day hospital work settings, despite of an established workforce.

Response latency categorization

The response time distribution (Table 2) reveals an impressive efficiency, with 8787 (99.1%) cases resolved immediately. Conversely, around 15 (0.2%) cases exhibited a massive decline in comparison to this threshold necessitating about 2-4 hr for inquiry resolution and almost 9 (0.1%) cases required 4-24 hr

time span. Notably, no cases transcended beyond the 24 hr mark. Overall, the data indicates a well-functioning response process with minimal protracted unresolved cases. The average time taken for resolving the queries was 1.09 min.

Inference from the Figure 2 below, reveals that there is a remarkable downtrend in response latency to queries put forth. Moreover, it points to the increased efficacy of clinical pharmacology department in tackling drug issues raised, with trained expertise and knowledge. This parameter is a vital indicator of the expediency of drug information services. Analytical statistics also reveal a dominant time interval for evaluating a high number of adverse drug reactions reported in 2023. This value can also be asserted to the high volume of queries generated during the respective period. However, the contrasting ratios of query load and response latency observed towards the end is of this study justifies a major advancement in our clinical pharmacology services.

Requester categorization

As illustrated in Figure 3, the query distribution among health-care professionals reveals a striking dominance by nurses, who account for 7954 (90.27%) of inquiries. In contrast, physicians generated a relatively modest number of 559 (6.34%) queries, whereas physician assistants contributed to 222 (2.51%) drug information requests. Patient initiated queries constituted a negligible value 31(0.35%), whereas, health professionals representing the other categories also comprised of minimal number of requests 45 (0.51%).

Notably, throughout the years there is an impressive growth in the quantity of physicians approaching our drug information services (Table 3). This implies upon the increase in quality of the services rendered across the organization. A major setback is the limited count of patients having reached out to the services either due to lack of awareness about such a service or because of inaccessibility. This shortcoming puts forth a pressing concern of improving patient contact, evenly throughout the in-patient as well as out-patient settings.

Annual query trend categorization

The numerical data relating to yearly query frequency exhibited a steady ascent, commencing with 650 in July 2019 to June 2020. This upward growth accelerated markedly, with a surge to 2880 by June 2022 followed by an imperceptible d-escalation to 2036 by June 2023. However, this slight decline picked pace by June 2024 accounting to 2658 queries.

From Figure 4, it is evident that queries showed an ascending pattern throughout. Drug information requests were the maximum in the year July 2021 to June 2022 (32.68%) indicating maximum utilization of services. Periodically ahead, there is a minute downturn to the services which eventually rebounded into line by 30.16% of queries until June 2024. The fall in queries during July 2022 to June 2023 can be affirmed to the short number of queries relating to brand composition. Whereas the increment in query numbers thereafter can be asserted to requests relating to dilution and stability, indicating progress of our services.

The above Table 4 details the possibilities inferring to the decrease in query count during July 2022 to June 2023 and one such implication could be the fall in query regarding brand composition. Furthermore, monthly analysis of queries highlights the amplification of query count emphasizing on the marked development of clinical pharmacy services over the months.

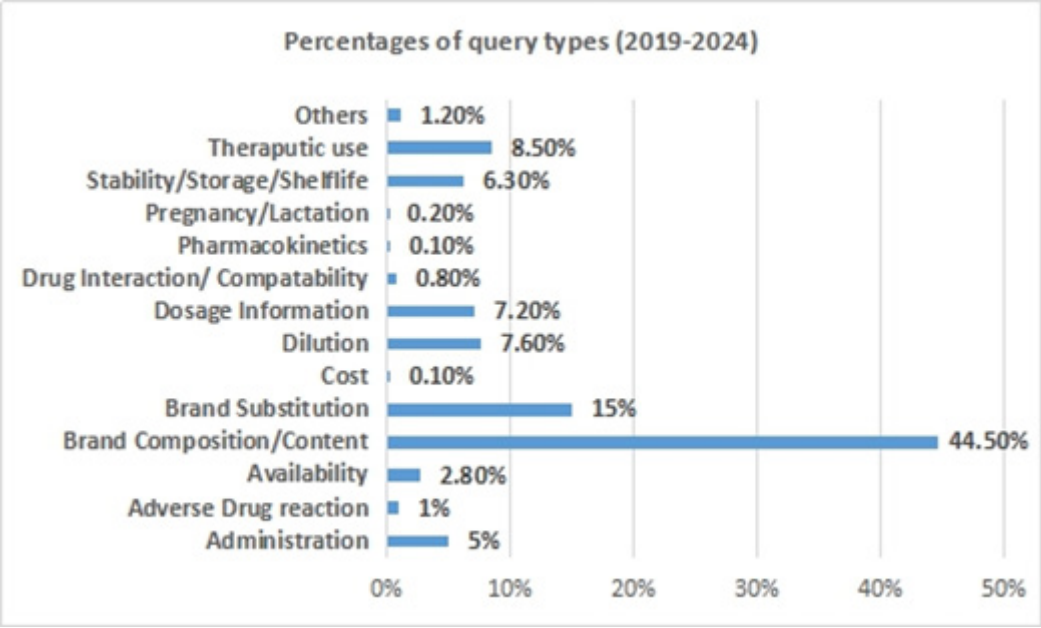

Figure 1: Type of queries and their metrics.

Table 1: Annual analysis of query composition.

Type of request	2019 No. of questions (Percentage)	2020 No. of questions (Percentage)	2021 No. of questions (Percentage)	2022 No. of questions (Percentage)	2023 No. of questions (Percentage)	2024 No. of questions (Percentage)
Brand substitution	36 (9.2)	75 (15.4)	395 (29.9)	495 (15.9)	226 (10.1)	91 (7.2)
Administration	13 (3.3)	28 (5.8)	51 (3.9)	99 (3.2)	147 (6.6)	101 (8.0)
Therapeutic Use	71 (18.2)	42 (8.6)	57 (4.3)	256 (8.2)	188 (8.4)	132 (10.4)
Dosage Info	32 (8.2)	59 (12.1)	86 (6.5)	176 (5.7)	192 (8.6)	92 (7.3)
Brand Composition	171 (43.7)	165 (34.0)	466 (35.2)	1736 (55.7)	891 (39.9)	476 (37.6)
Dilution	22 (5.6)	44 (9.1)	106 (8.0)	106 (3.4)	255 (11.4)	135 (10.7)
Stability/Storage	17 (4.3)	21 (4.3)	69 (5.2)	91 (2.9)	187 (8.4)	169 (13.3)
ADR	5 (1.3)	7 (1.4)	11 (0.8)	40 (1.3)	16 (0.7)	5 (0.4)
Pregnancy	2 (0.5)	3 (0.6)	3 (0.2)	2 (0.1)	8 (0.4)	4 (0.3)
Availability	20 (5.1)	26 (5.3)	64 (4.8)	70 (2.2)	42 (1.9)	23 (1.8)
Drug interaction	2 (0.5)	7 (1.4)	3 (0.2)	9 (0.3)	33 (1.5)	15 (1.2)
Others	0 (0)	4 (0.8)	7 (0.5)	29 (0.9)	46 (2.1)	23 (1.8)
Pharmacokinetics	0 (0)	4 (0.8)	2 (0.2)	1 (.00)	1 (0.0)	0 (0)
Cost	0 (0)	1 (0.2)	2 (0.2)	4 (0.1)	0 (0)	0 (0)
Total	391 (100)	486 (100)	1322 (100)	3114 (100)	2232 (100)	1266 (100)

DISCUSSION

According to the World Health Organization (WHO), a Drug Information Centre (DICs) is a crucial element of nationwide scheme in promoting rational drug use.[5] Our study supports this assertion, demonstrating that DICs are a vital tool in health-care decision making.

A total of 8811 queries were curated from July 2019 to June 2024. A structured drug information request form was implemented to collect and process queries. Moreover, queries were also received via other channels encompassing direct in person requests, ward round consultations, inquiries over call, as written forms and other informal means. This figure was remarkably high compared to 122 queries that were analyzed in a study by Mudigubba *et al.,* during 2013.[6] The high number of queries stands as an indicator of the high awareness of such a service persisting in our hospital and the high amount of utilizers taking advantage of the same, eventually pointing to the fact that quality of services provided by our trained staff via clinical interventions reasonably aids in treatment decision making, thereby optimizing patient care. Moreover, in the study by Mudigubba *et al.*, the maximum number of inquiries were regarding drug indication 21.31% whereas in our study, requests pertaining to brand composition were the highest by 44.5%. In the above study, concerns on pregnancy and lactation accounted for the least by 5.74%. Conversely, in the current study the minimal percentage of drug information sought was about pharmacokinetics and drug prices by 0.1% respectively. In a similar study conducted by Sreedevi *et al.*, during 2017 maximum queries were on drug profile (23.14%) and disease (23.14%) while the minimal queries were on drug guidelines (0.92%).[7]

Table 2: Time span of inquiry response.

Time of response	Number	Percentage
< 10 min	8787	99.1%
>2- 4 hr	15	0.2%
>4- 24 hr	9	0.1%
>24 hr	0	0%

According to ASHP guidelines on providing drug information, clarifying the underlying question helps optimize the search process, ultimately enabling a more accurate estimation of the response time frame.[8] The response timeline of our queries was impressively brief with most of them addressed within 2 hr (99.1%). Whereas, in a study conducted by George *et al.*, in the year 2005 76.1% of requests were answered immediately.[9] Additionally, over 3.4% of queries in the above study were responded within 10 min while on the other hand only 0.2% of our requests were replied to within 2 to 4 hr time span. According to a study conducted by Thireesha *et al.*, in 2020, the cornerstone of safe and effective drug therapy is the timely provision of accurate information to health-care professionals.[10] Hence, with regard to the above literature, time is one indicator that represents the quality and productivity of drug information services rendered available by clinical pharmacists. This aspect eventually points to the increased expediency of our services within the hospital premises.

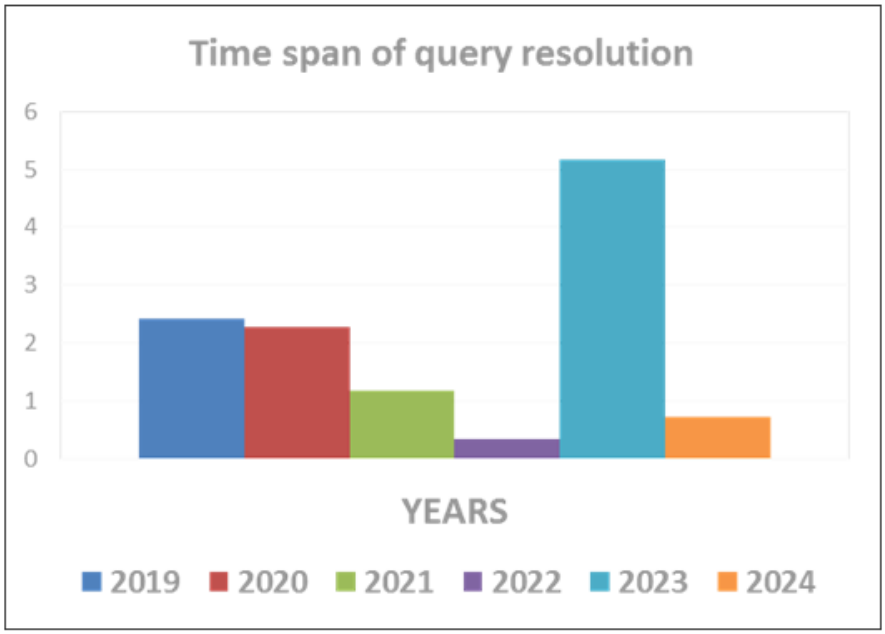

Figure 2: Analysis of time period in providing query response.

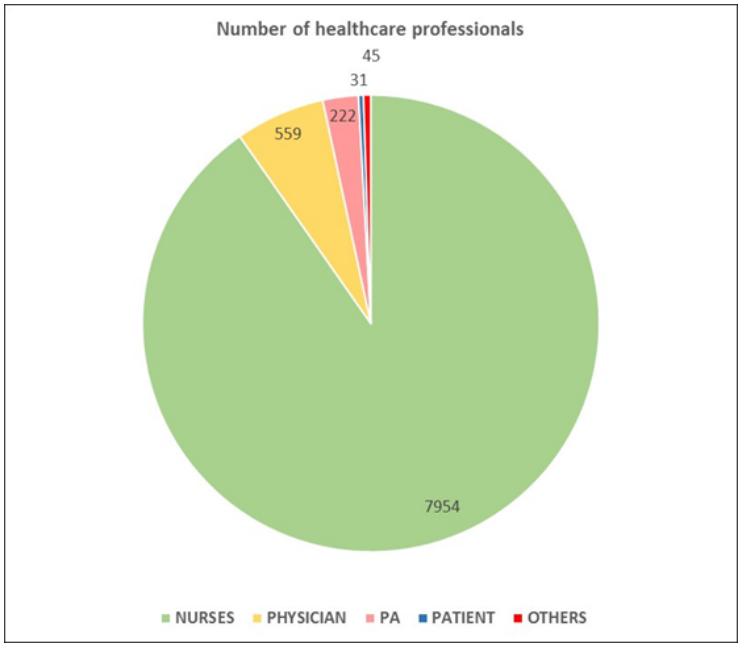

Figure 3: Requester classification on the basis of number of queries.

In the present study, nurses made up the largest share of health-care professionals and this category of health workers were the most predominant ones in utilizing our drug information services (90.27%). Physicians were second in line, representing 6.34% of total drug enquiry submissions. Patients constituted an imperceptible percentage of 0.35%, inferring the fact that our services lacked direct contact with the general public or patients. This ratio is completely contradictory to the percentage of utilizers obtained in a study conducted by Kumar *et al.*,[11] at an educational health-care organization in 2012, where patient relatives were the highest component (24%) amongst total utilizers. In the above-mentioned study, nurses and doctors put forth 8.72% and 16.86% of inquiries respectively. In a study conducted by Krishnaveni *et al.*,[12] in 2018, doctors were the supreme beneficiaries (73.14%) implying the increased participation of clinical pharmacist mediated interventions in clinical decision making. Patients made up the least constituent by 6.07% in the fore mentioned study, fabricating a similar pattern with that of ours.

In the realm of patient care, clinical pharmacists exert their influence in a myriad of aspects. For instance, they are instrumental in pediatric and neonatology care, contributing

Table 3: Annual comparison of requester type.

Date Of Enquiry	Designation of The Requester	Frequency	Percent
2019	Nurse	333	85.2
	Physician	51	13.0
	PA	4	1.0
	Patient	3	.8
	Total	391	100.0
2020	Nurse	374	77.0
	Physician	95	19.5
	PA	16	3.3
	Patient	1	.2
	Total	486	100.0
2021	Nurse	1227	92.8
	Physician	80	6.1
	PA	13	1.0
	Patient	2	.2
	Total	1322	100.0
2022	Nurse	2978	95.6
	Physician	65	2.1
	PA	56	1.8
	Patient	15	.5
	Total	3114	100.0
2023	Nurse	1937	86.8
	Physician	156	7.0
	PA	111	5.0
	Patient	6	.3
	Others	22	1.0
	Total	2232	100.0
2024	Nurse	1105	87.3
	Physician	112	8.8
	PA	22	1.7
	Patient	4	.3
	Others	23	1.8
	Total	1266	100.0

to dose calculations and dosage form modifications. Within the stroke unit, their expertise lies in identifying high-risk patient groups prone to bleeding, potential drug interactions, and minimizing adverse effects. Whereas, in the current study the queries curated were not classified based on the medical department. A notable constraint of our research is the omission of response feedback analysis.[13]

According to SHPA Standards of Practice for drug information services, an annual report on review of quality of services will include a comparative analysis with the previous year's performance, showcasing enhancements in service delivery and outcomes.[14] However, the upward trend in service utilization illustrated in this study over the years, is an implication of service quality, indicating improved accessibility and user satisfaction. Our services were provided around the clock by trained clinical pharmacists to all the medical departments amidst their respective clinical activities. Nevertheless, the COVID-19 pandemic could be likely attributed to the decreased query ratios reported in 2019-2020. In a study conducted by Peter *et al.*,[15] for a period of 3 years from 2013 to 2015, the data exhibited a fluctuating trend going from a 68% increase from 2013 to 2014, followed by a decrease of 24% from 2014 to 2015. A similar trend was also observed in the current study, wherein, the growth in the number

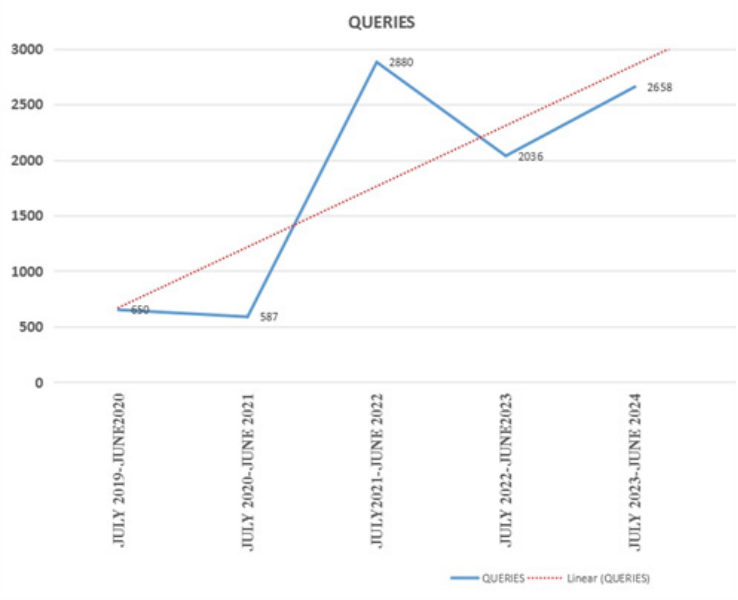

Figure 4: Annual pattern of queries.

Table 4: Monthly analysis of queries.

Date of enquiry	Month	Frequency	Percent
JULY 2019 - JUNE 2020	July	27	6.9
	August	113	28.9
	September	64	16.4
	October	76	19.4
	November	39	10
	December	72	18.4
	January	52	10.7
	February	77	15.8
	March	38	7.8
	April	36	7.4
	may	24	4.9
	June	32	6.6
	TOTAL	650	100
JULY 2020- JUNE 2021	July	21	4.3
	August	30	6.2
	September	45	9.3
	October	46	9.5
	November	48	9.9
	December	37	7.6
	January	35	2.6
	February	47	3.6
	March	43	3.3
	April	72	5.4
	may	72	5.4
	June	91	6.9
	TOTAL	587	100

Date of enquiry	Month	Frequency	Percent
JULY 2021-JUNE 2022	July	130	9.8
	August	91	6.9
	September	77	5.8
	October	97	7.3
	November	245	18.5
	December	322	24.4
	January	343	11
	February	360	11.6
	March	386	12.4
	April	277	8.9
	may	305	9.8
	June	247	7.9
	TOTAL	2880	100
JULY 2022-JUNE 2023	July	216	6.9
	August	256	8.2
	September	162	5.2
	October	218	7
	November	192	6.2
	December	152	4.9
	January	151	6.8
	February	129	5.8
	March	149	6.7
	April	155	6.9
	may	130	5.8
	June	126	5.6
	TOTAL	2036	100
JULY 2023-JUNE 2024	July	269	12.1
	August	217	9.7
	September	203	9.1
	October	209	9.4
	November	240	10.8
	December	254	11.4
	January	202	16
	February	246	19.4
	March	186	14.7
	April	237	18.7
	may	209	16.5
	June	183	14.5
	TOTAL	2658	100

of queries from July 2021 to June 2022 was 32.686%. Following this period, there is a subtle downtrend to 23.10% by June 2023. Henceforth, the ratios bounced back to augmented query count by July 2023- June 2024 indicating growth of the service.

The majority of the queries in our study were addressed through utilization of Up-to-date as the primary resource, augmented by supplementary resources like drug leaflets, Medscape, primary peer reviewed original research articles and PubMed. This is quite

comparable to the drug utilization reference metrics in a study conducted by Tefera *et al*., in 2019,[16] where Up-to-date was the chief source of information of 82.5% of queries.

STRENGTHS AND LIMITATIONS

The major strength of this study is the large number of queries curated from multiple stakeholders. Whereas the notable limitation includes the lack of assessing the feedback regarding the quality, use fullness and applicability of the information provided by the clinical pharmacists to the enquirers. Another potential limitation is that the queries were not categorized based on the area of specialization or medical department.

CONCLUSION

The study implicates the need of incorporating clinical pharmacists for drug information service in and outside India, hence suggesting avenues for further exploration. A primary advantage of consolidating the services of a clinical pharmacists into a centralized hub is an increased opportunity for direct patient engagement, fostering enhanced interpersonal interactions and holistic care. Finally, the findings of this study emphasize the necessity in replicating such an established service in other hospitals including government organizations for optimizing quality of patient care.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

ABBREVIATIONS

DI: Drug Information; **DICs:** Drug Information Centers; **ADR:** Adverse Drug Reaction; **DIRF:** Drug Information Request Form; **WHO:** World Health Organization; **SHPA:** Society of Hospital Pharmacists of Australia.

REFERENCES

1. ASHP Guidelines on the Pharmacist's Role in Providing Drug Information Background and Rationale [Internet]. Available from: https://www.ashp.org/-/media/assets/policy-guidelines/docs/guidelines/pharmacists-role-providing-drug-information.pdf
2. Francis J, Abraham S. Clinical pharmacists: Bridging the gap between patients and physicians. Saudi Pharmaceutical Journal. 2014; 22(6): 600-2.
3. Tariq RA, Rishik Vashisht, Sinha A, Yevgeniya Scherbak. Medication Dispensing Errors and Prevention [Internet]. Nih.gov. StatPearls Publishing; 2024 [cited 2025 Apr 4]. Available from: http://www.ncbi.nlm.nih.gov/books/NBK519065
4. Sandhiya Selvarajan, SapanKumar Behera, Xavier A, Vikneswaran Gunaseelan, ByrappaKempalalakshmamma Ravindra, Chandrasekaran A, *et al.* Drug information center as referral service in a South Indian tertiary care hospital. International Journal of Pharmaceutical Investigation [Internet]. 2017; 7(4): 182-2. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC5903022/
5. BP SK. Overview of Status and Challenges of Drug Information Services in India. Research Review. 2022 May 9
6. Mudigubba M, Kumar. [cited 2025 Apr 4]. Available from: http://innpharmacotherapy.com/VolumeArticles/FullTextPDF/21_4IPPSAJuly2013.pdf.
7. Sridevi DrK, Subbaiah MVenkata, Surekha M, Harini J, Chandini S, Basher S, et al. Clinical Pharmacist Role in Drug Information Services and Medication Errors Management at Tertiary Care Hospital. IOSR Journal of Dental and Medical Sciences. 2017; 16(06): 16-23.
8. Ghaibi S, Ipema H, Gabay M. ASHP Guidelines on the Pharmacist's Role in Providing Drug Information. American Journal of Health-System Pharmacy [Internet]. 2015; 72(7): 573-7. Available from: https://academic.oup.com/ajhp/article/72/7/573/5111728
9. Rao P, George B. Assessment and evaluation of drug information services provided in a South Indian teaching hospital. Indian Journal of Pharmacology. 2005; 37(5): 315.
10. P T, K M, ADUSUMILLI PK, HARSHA C S. AN OVERVIEW OF DRUG INFORMATION CENTER - FUNCTIONS AND CHALLENGES IN INDIA. Asian Journal of Pharmaceutical and Clinical Research. 2020; 11-5.
11. Kumar SV, Vijayalaxmi Chakilam. Quality of Services provided by the Drug Information Centre of the Pharmacy Practice Department in a Tertiary Care Teaching Hospital at Warangal District: Andhra Pradesh, India [Internet]. 2013. Available from: https://www.researchgate.net/publication/257713179_Quality_of_Services_provided_by_the_Drug_Information_Centre_of_the_Pharmacy_Practice_Department_in_a_Tertiary_Care_Teaching_Hospital_at_Warangal_District_Andhra_Pradesh_India.
12. K. K, R. K, K. SS, Sajan AS. Assessment and evaluation of drug information services provided by drug information centre at a multispecialty hospital in Erode, Tamil Nadu, India. International Journal of Basic & Clinical Pharmacology. 2018 Sep 24 ; 7(10): 1987.
13. Francis J, Abraham S. Clinical pharmacists: Bridging the gap between patients and physicians. Saudi Pharmaceutical Journal. 2014; 22(6): 600-2.
14. SHPAStandards of Practice for Clinical Pharmacy SHPACommitteeofSpecialtyPracticeinClinicalPharmacy [Internet]. Available from: https://www.cff.org.br/userfiles/file/Prescri%C3%A7%C3%A3o/THE%20SOCIETY%20OF%20HOSPITAL%20PHARMACISTS%20OF%20AUSTRALIA_%20Standards%20of%20practice%20for%20clinical%20pharmacy_%202004_.pdf
15. SFORSIN AC, PINTO VB, CASTRO TL, SILVA GC, SANTOS GR, CARNEIRO GA, *et al.* The drug information center: a central piece to evidence-based decision making. Revista Brasileira de Farmácia Hospitalar e Serviços de Saúde. 2022; 13(4): 869-9.
16. Tefera YG, Gebresillassie BM, Ayele AA, Belay YB, Emiru YK. The characteristics of drug information inquiries in an Ethiopian university hospital: A two-year observational study. Scientific Reports. 2019; 9(1).

Cite this article: Paul EM, Joy S, Abraham ER, Varghese D, John S, John J, *et al*. Role Vitalized by Clinical Pharmacists in Drug Information Services: A Cross-Sectional Analysis in a Tertiary Care Hospital. Indian J Pharmacy Practice. 2026;19(1):46-54.