

***Understanding The Clinical
Pharmacy GDA Team's Efficiency for
Medication Delivery from The
Centralised In-Patient Pharmacy to
Patient Bed-Side in Different In-
Patient Clinical Areas, in A Multi-
Specialty, Tertiary Care Hospital***

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INTRODUCTION

According to the UNFPA, the Indian population is projected to exceed that of China by mid-2023. With this surge in population comes a heightened responsibility to address healthcare needs. The burden of diseases, including COVID-19, Malaria, Tuberculosis, AIDS, and others, continues to escalate, presenting both opportunities and challenges for our country. The increase in morbidity and mortality rates, particularly evident during the recent COVID-19 pandemic, has prompted a reevaluation of our healthcare system protocols. The COVID-19 pandemic exposed various healthcare deficiencies, such as increased hospitalization rates, ICU bed shortages, oxygen supply constraints, medication shortages, and unclear treatment pathways. These issues were widely highlighted by the media, underscoring the importance of addressing shortcomings in our healthcare system [3,4].

Delving deeper into the challenges of medication shortages and unclear treatment pathways, the significance of medication management becomes apparent. Medication management is crucial for ensuring safe and effective healthcare delivery, encompassing processes like prescribing, dispensing, administering, and monitoring medications to optimize patient outcomes. While essential, medication management is not without its challenges [2].

Effective medication management is vital for several reasons. Firstly, it ensures the precise administration of appropriate medications at correct dosages, promoting optimal therapeutic outcomes and disease control. Secondly, it plays a crucial role in patient safety by minimizing medication errors, adverse drug interactions, and preventable complications. This

involves adhering to meticulous prescribing practices, accurate dispensing procedures, and proper administration techniques to reduce the risk of harm [1].

RESEARCH OBJECTIVES

The aim was to assess the effectiveness of the medication delivery process conducted by the clinical pharmacy GDA team. This process involved transporting medications from the centralized IP pharmacy to different patient care units within a multi-specialty tertiary care hospital.

RESEARCH QUESTIONS

1. Are there differences in the frequency of trips made to various patient care zones by the GDAs?
2. Do the trips taken by the GDA personnel from the inpatient pharmacy to patient care areas change depending on the time of day?
3. Does the amount of medication transported affect the frequency of trips made to different patient care areas?
4. Are there any suggestions for enhancing the effectiveness of the medication delivery process?

RESEARCH METHODOLOGY

The research study was designed as observational, focusing on observing and documenting the number of trips made by GDA staff and the quantity of medicine packets transported from the centralized IP pharmacy to different patient care areas within the multi-specialty hospital. Direct observation of the GDA staff was conducted over a period of 17 days, corresponding to the number of staff members, to gather data on

their individual activities and work patterns. The study was conducted at Medanta - The Medicity, Gurgaon, specifically within the centralized IP pharmacy situated on the lower ground floor of the hospital. The study population comprised the GDA staff members belonging to the clinical pharmacy GDA team, responsible for transporting medication packets from the centralized in-patient pharmacy to various patient care areas within the hospital. This included all 17 male GDA staff members, irrespective of their experience level, age, or educational qualifications.

Descriptive statistics were employed to portray the "mean, median, and standard deviation" of the number of trips undertaken and to assess the distribution of data across various time intervals. Additionally, the efficiency percentage was computed by comparing the actual number of trips made to the expected number of trips for the staff. Pearson's correlation test was administered to discern the type of correlation existing between the number of trips conducted and the quantity of medication packets delivered.

RESULTS & DISCUSSION

The clinical pharmacy GDA team was tasked with serving various specific floors within Medanta, Gurgaon, including patient care areas such as the 5th floor B wing, 6th floor, 7th floor, 8th floor, 9th floor, 10th floor, 11th floor, 12th floor, 14th floor, and 15th floor, encompassing both IPD wards/rooms and ICUs 1 - 11. Additionally, one GDA was designated to the Heart Command Centre on UG. Upon scrutinizing the data, it became evident that there was a noticeable discrepancy in the number of trips conducted by all the GDAs across the various patient care locations, suggesting

varied demands for medication delivery among floors, possibly owing to differences in specialty. Notably, ICU 1 & 2, ICU 3 & 4, ICU 9 & 10, and the 5th B wing consistently recorded the highest number of trips (16), indicative of potentially greater needs for frequent deliveries due to higher patient acuity, increased care requirements, or larger patient volumes. Conversely, GDA 9, assigned to the 14th floor, made the fewest trips, totaling only 9, implying a decreased demand for GDA assistance on that floor. The range of medication packets delivered varied from 34 to 141 packets, suggesting an unequal distribution of workload among the GDAs. GDA 4 delivered the highest number of medication packets (141) with only 14 trips to the 8th floor, despite not recording the highest number of trips overall. Similarly, GDA 6 delivered the highest number of packets while serving the 10th floor B wing, despite facing lower demand compared to other floors and catering to only one wing. A Pearson's correlation test revealed a coefficient of 0.59, indicating a moderate positive correlation between the number of trips made by GDAs and the quantity of medication packets delivered. This suggests a connection between patient care demands and medication requirements, with patient care areas that necessitated higher numbers of trips also witnessing higher medication deliveries. Consequently, ICU 1 & 2, ICU 3 & 4, ICU 9 & 10, and the 5th B wing consistently recorded both the highest number of trips and delivered a relatively larger number of medication packets.

CONCLUSION

Based on the study's findings, several recommendations emerge. Firstly, the hospital management should develop educational and training programs tailored specifically for the clinical pharmacy GDA team. A key component of this initiative should prioritize training on the proper utilization of the

pneumatic chute system, given the significant investment made by the hospital in this technology. Utilizing automated methods for tracking and medication distribution could enhance accuracy and efficiency, thereby reducing medication errors and human-related mistakes. Moreover, conducting continuous monitoring and evaluation of the medication management process is crucial for identifying opportunities for improvement and ensuring adherence to best practices.

Furthermore, the multi-specialty, tertiary care hospital should consider optimizing staffing schedules based on patient care demands, particularly for porter management in high-volume areas. When re-planning staff assignments, factors such as location and travel time should be taken into account. Leveraging effective communication technologies such as mobile applications or electronic tracking systems, like a beacon system, can facilitate real-time updates and streamline the delivery process. Implementing regular performance reviews and feedback protocols can also assist in identifying areas where specific staff members may require improvement.

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