

PHARMACIST INTERVENTIONS IN CLINICAL PRACTICE: AN OBSERVATIONAL ANALYSIS

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OBJECTIVE

The objectives of this study are.

- To identify and categorize the types of pharmacist interventions in clinical practice.
- To quantify the frequency and nature of these interventions
- To identify the most common medications associated with pharmacist interventions.
- To estimate potential clinical cost savings resulting from pharmacist-led interventions.

METHODOLOGY

- A retrospective observational study was conducted at Shaukat Khanum Memorial Cancer Hospital and Research Centre, Peshawar over 6 months from January 2025 to June 2025. Data on pharmacist-led interventions addressing prescribing errors were collected by reviewing past documented prescriptions.

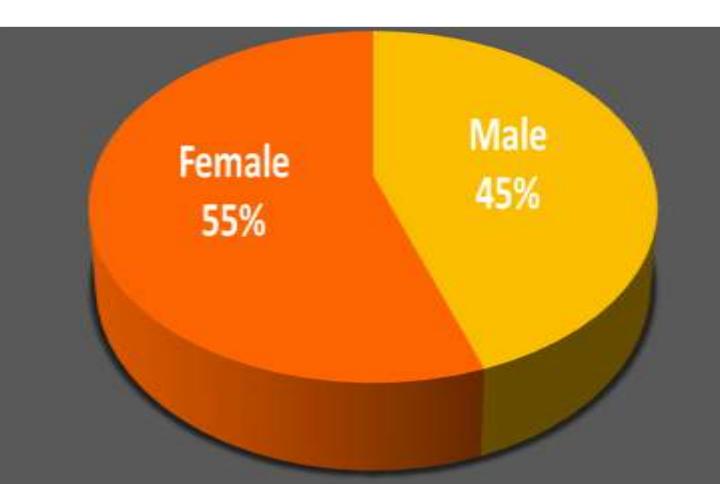
RESULTS

- Among the patient population, adults accounted for 86.5% of interventions, while pediatric patients represented 14%. Gender distribution showed a slightly higher proportion among females (55%) compared to males (45%).
- A total of 13,651 pharmacist interventions were documented during the six-month study period, out of 301,114 medication items dispensed, representing approximately 4.5% of all items. This indicates that one pharmacist intervention was required for every 22 items dispensed.
- The overall physician acceptance rate for these interventions was 93.4%, reflecting strong collaboration between pharmacists and prescribers. From an economic standpoint, the interventions resulted in an estimated **cost saving of about 4 million PKR over six months**. 3.55 million PKR saved from general overall interventions and 0.44 million PKR saved from Pharmacist-Led IV-to-Oral Interventions.
- By specialty, the highest proportion of interventions occurred in Internal Medicine (50.2%), followed by Medical Oncology (16.9%), Pediatric Oncology (13%), Surgical Oncology (10%), and Radiation Oncology (8%).
- The most frequent types of interventions were inappropriate dosing (38.2%) and inappropriate scheduling (27.1%), with others involving route, duplication etc.
- In terms of dosage form, most interventions were made for solid formulations (51%), followed by parenteral (26%) and liquid (18%) preparations.
- The most frequently intervened medications were Paracetamol (12%), Omeprazole (7%), and Metoclopramide (6%).
- Statistical analysis demonstrated significant associations ($p = 0.000$) between **patient location and physician decisions, type of intervention and adult and pediatric Populations , dosage form and intervention type, as well as specialty and physician decisions**. These findings confirm that pharmacist interventions were consistent and impactful across different patient groups and clinical areas.

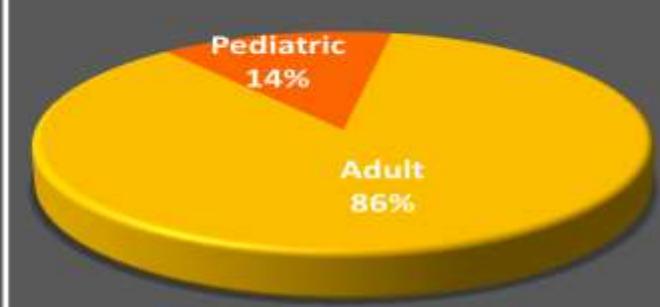
CONCLUSION

- Through their proactive interventions, pharmacists effectively prevented medication errors, optimized therapy, and promoted the rational use of medicines across diverse specialties and patient collaboration and trust.
- The high rate of physician acceptance reflects strong interprofessional are integral members of the healthcare team, contributing significantly to improved patient outcomes, safety, and the efficient use of healthcare resources.

Gender-wise Distribution of Interventions



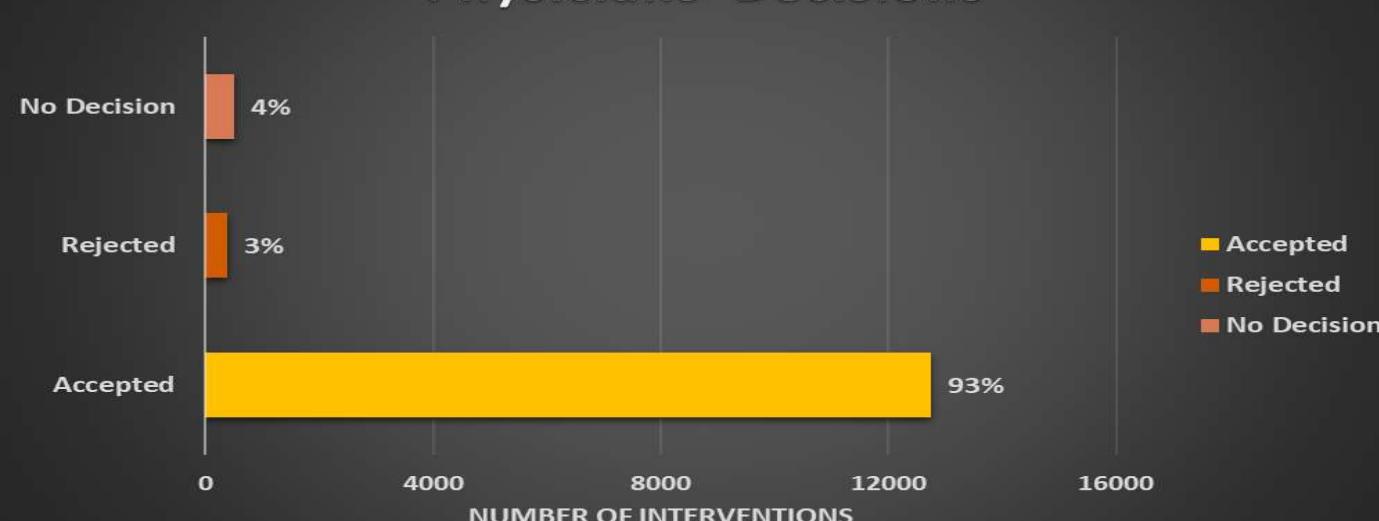
INTERVENTIONS IN ADULT AND PEDIATRIC POPULATIONS



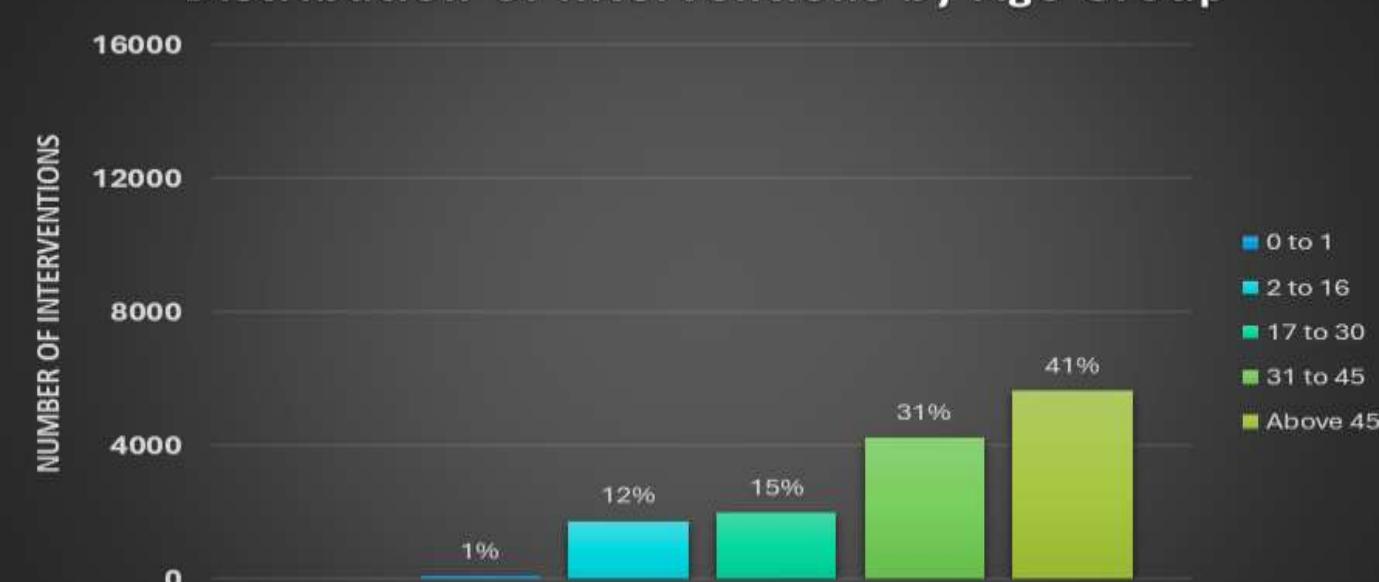
Distribution of Interventions by Location



Distribution of Interventions by Physicians' Decisions



Distribution of Interventions by Age Group



Chemotherapy Intervention Type

