

# The Pediatric Clinical Pharmacy Practice: From Basic Knowledge to Advanced Clinical Judgment

Toktam Faghihi<sup>1,2\*</sup>

<sup>1</sup>Department of Clinical Pharmacy, School of Pharmacy, Tehran University of Medical Sciences, Tehran, Iran.

<sup>2</sup>Children's Medical Center Hospital, Pediatrics Center of Excellence, Tehran University of Medical Sciences, Tehran, Iran.

Received: 2024-12-22, Revised: 2024-12-22, Accepted: 2024-12-23, Published: 2024-12-31

J Pharm Care 2024; 12(4): 202-203.

Pediatric clinical pharmacy practice is pivotal for the care of children. This necessity has led to recommendations set forth by the American College of Clinical Pharmacy and the Pediatric Pharmacy Advocacy Group to meet the pediatric patients' need for a clinical pharmacist (1). In addition, the American Academy of Pediatrics has stated that qualified pharmacists should be involved in caring for pediatric patients in the intensive care units and hematology-oncology settings (1).

To date, many studies have addressed the clinical pharmacist interventions in the pediatric hospital setting (2-6). It has been suggested that clinical pharmacist interventions have a significant positive impact on pediatric patient outcomes (3-5). Pediatric patients are more vulnerable to medication errors than adults (5). Also, the clinical pharmacist's role in reducing medication errors in hospitalized children has been well described (7). In a systematic review conducted by Maffre et al, a variety of pediatric clinical pharmacy services in pediatric inpatient care have been described (2). Among the clinical pharmacist activities, interventions on prescriptions were the most frequent role described (2).

Clinical pharmacy's role in improving outcomes has also been described in the outpatient pediatric specialty clinic (8).

Based on the above evidence, it is of utmost importance to have a collaborating highly skilled clinical pharmacist in the field of pediatrics. The clinical pharmacy field of practice in pediatrics encompasses a wide variety of scenarios. How could this skill be achieved for a graduated clinical pharmacist? The need for specific clinical pharmacy training in the pediatric setting has been mentioned previously (2).

In practice, according to the institution and medical team, the role of a clinical pharmacist can extend from medication consultation to medication prescription (5). Thus, a shift of skill from understanding comprehensive knowledge to an advanced clinical judgment practitioner is an integral part of practice. This skill can be achieved step by step. Evidence-based practice is the foundation of practice, extending from basic knowledge to advanced clinical judgment.

Starting with basic adult-based education learned as a clinical pharmacist in the curriculum, there is a clear need for an ongoing study on additional pediatric pharmacotherapy topics. The clinical pharmacist collaborates in a multidisciplinary team with physicians. Professionally, while touching the knowledge on the pathophysiology and diagnosis of diseases, the focus should be on pharmacotherapy tastes. Thus clinical pharmacists should narrow down their expertise to medication-related or treatment-related issues.

Then, by participating in medical rounds, recognizing the gaps, and running practical lectures goal-directed to ward/hospital requirements, the clinical pharmacist will optimize patient care. Clinical pharmacists should provide recommendations during medical rounds. Ideally, drug therapy comments are best provided in rounds, with patient follow-up and observation of the outcome as much as possible while having the feedback and acceptance rate of the treating physician. Indeed, it has been stated that the greatest benefits of clinical pharmacists' interventions are observed as real-time recommendations to physicians made during the prescription phase of treatment (3).

The next step of practice is to provide local ward/hospital protocols. These protocols should be discussed and agreed upon in a multidisciplinary team composed of health care providers. The higher level of practice is to provide consults for challenging pediatric patients as a consultant clinical pharmacist. As a pediatric consultant clinical pharmacist with her skilled viewpoint, consults should be summarized with a resolution and thus facilitate decision-making for the health care provider. Consults are requested by physicians in all areas of pharmacotherapy and are not limited to patients encountered during the clinical pharmacist medical rounds. Moving to professionalism, verbal communication with physicians is of paramount importance to avoid misinterpretations and mismanagements and to provide the best treatment options specifically for the most complicated patients. Communication has a dual worth for both the clinical pharmacist and the physician, and ultimately for the patient.

**Corresponding Author:** Dr Toktam Faghihi

Address: Department of Clinical Pharmacy, School of Pharmacy, Tehran University of Medical Sciences, Enqelab Square, Poursina Avenue, P.O. Box: 14155/6451, Tehran, Iran. Fax: +98 2166954709.  
E-mail: tfaghihi@tums.ac.ir

Copyright © 2024 Tehran University of Medical Sciences.

This work is licensed under creative Commons Attribution-NonCommercial 4.0 International license (<https://creativecommons.org/licenses/by-nc/4.0/>). Noncommercial uses of the work are permitted, provided the original work is properly cited

Running shared decision-making sessions is one of the practice cornerstones of a pediatric clinical pharmacist. These sessions can be held when needed to discuss and change a routine strategy, change or upgrade a routine practice, or implement new treatment approaches.

In summary, post-graduate fellowship programs in pediatric clinical pharmacy are recommended. Besides, due to the diversity and complexity of pediatric health care, the need to expand the current number of pediatric clinical pharmacists, and the issue that all areas of pediatric pharmacotherapy are not covered during the residency curriculum (1), step-by-step empowerment of a graduate clinical pharmacist involved in pediatric care is mandatory.

### Conflicts of Interest

The author has no conflicts of interest to declare.

### References

1. Bhatt-Mehta V, Buck ML, Chung EA, et al. Recommendations for meeting the pediatric patients' need for a clinical pharmacist: a joint opinion of the pediatrics practice and research network of the American College of Clinical Pharmacy and the pediatric pharmacy advocacy group. *Pharmacotherapy*. 2013;33(2):243-51.
2. Maffre I, Leguelinel-Blache G, Soulairol I. A systematic review of clinical pharmacy services in pediatric inpatients. *Drugs Ther Perspect*. 2021; 37:363-75.
3. Drovandi A, Robertson K, Tucker M, Robinson N, Perks S, Kairuz TH. A systematic review of clinical pharmacist interventions in pediatric hospital patients. *Eur J Pediatr*. 2018;177(8):1139-48.
4. LaRochelle JM, Ghaly M, Creel AM. *J Pediatr Pharmacol Ther*. 2012;17(3):263-9.
5. Tripathi S, Crabtree HM, Fryer KR, Graner KK, Arteaga GM. Impact of Clinical Pharmacist on the Pediatric Intensive Care Practice: An 11-Year Tertiary Center Experience. *J Pediatr Pharmacol Ther*. 2015;20(4):290-8.
6. Condren ME, Haase MR, Luedtke SA, Gaylor A. Clinical activities of an academic pediatric pharmacy team. *Ann Pharmacother*. 2004;38(4):574-8.
7. Naserlallah LM, Hussain TA, Jaam M, Pawluk SA. Impact of pharmacist interventions on medication errors in hospitalized pediatric patients: a systematic review and meta-analysis. *Int J Clin Pharm*. 2020;42(4):979-94.
8. Lynton JJ, Mersch A, Ferguson PJ. Multidisciplinary practice advancement: Role of a clinical pharmacy specialist in a pediatric specialty clinic. *Am J Health Syst Pharm*. 2020;77(21):1771-7.

### PLEASE CITE THIS PAPER AS:

Faghihi T. The Pediatric Clinical Pharmacy Practice: From Basic Knowledge to Advanced Clinical Judgment. *J Pharm Care* 2024;12(4):202-203.