

RESIDENT PHARMACIST IN GENERAL PEDIATRICS: AN EXPERIENCE REPORT

*FARMACÊUTICO RESIDENTE NA PEDIATRIA GERAL: UM RELATO DE
EXPERIÊNCIA*

*FARMACÊUTICO RESIDENTE EN PEDIATRÍA GENERAL: UN INFORME DE
EXPERIENCIA*

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ABSTRACT

To promote an experience report of a resident pharmacist in the Multiprofessional Residency Program in Pediatrics, in the general pediatric service. This is a descriptive study, a type of experience report, developed by a resident pharmacist, carried out in the setting of the general ward of a pediatric hospital of reference in the state of Ceará, Brazil, during the period from March to May 2021. It was possible to integrate theoretical knowledge with practice, aiming to promote activities related to clinical pharmacy and provide quality pharmacotherapeutic care to pediatric patients. The study highlights the importance of the clinical activities of the resident pharmacist in Pediatrics, aiming to improve pharmacotherapeutic care. Initiating the registration of these activities is essential to produce clinical indicators and enhance the value of the multiprofessional health residency program.

Keywords: *Internship and Residency; Pharmacy Service Hospital; Pediatrics.*

RESUMO

Promover um relato de experiência de um farmacêutico residente no Programa de Residência Multiprofissional em Pediatria, no serviço de Pediatria Geral. Trata-se de um estudo descritivo, tipo relato de experiência, desenvolvido por um farmacêutico residente, realizado no cenário da enfermaria geral de um hospital pediátrico de referência do Estado do Ceará, Brasil, durante o período de março a maio de 2021. Foi possível integrar o conhecimento teórico à prática, visando promover atividades relacionadas à farmácia clínica e proporcionar aos pacientes pediátricos uma atenção farmacoterapêutica de qualidade. O estudo destaca a importância das atividades clínicas do farmacêutico residente em Pediatria, visando aprimorar a atenção farmacoterapêutica. Iniciar o registro dessas atividades é fundamental para produzir indicadores clínicos e valorizar o programa de residência multiprofissional em saúde.

Descritores: *Residência Multidisciplinar; Serviço de Farmácia Clínica; Pediatria.*

RESUMEN

Promover un informe de experiencia de un farmacéutico residente en el Programa de Residencia Multiprofesional en Pediatría, en el servicio de pediatría general. Se trata de un estudio descriptivo, tipo informe de experiencia, desarrollado por un farmacéutico residente, realizado en el escenario de la sala de enfermería general de un hospital pediátrico de referencia en el estado de Ceará, Brasil, durante el período de marzo a mayo de 2021. Fue posible integrar el conocimiento teórico con la práctica, con el objetivo de promover actividades relacionadas con la farmacia clínica y proporcionar a los pacientes pediátricos una atención farmacoterapêutica de calidad. El estudio destaca la importancia de las actividades clínicas del farmacéutico residente en Pediatría, con el fin de mejorar la atención farmacoterapêutica. Iniciar el registro de estas actividades es fundamental para producir indicadores clínicos y valorar el programa de residencia multiprofesional en salud.

Descritores: *Internado y Residencia; Servicio de Farmacia en Hospital; Pediatría.*

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INTRODUCTION

The Multiprofessional Health Residency Programs (PRMS) were established in 2009 through Interministerial Ordinance No. 1077 of the Ministries of Health and Education. They are considered a form of in-service teaching, falling into the category of *lato sensu* graduate studies, and have a duration of two years, with exclusive dedication and a weekly workload of sixty hours¹.

Since 2002, the Ministry of Health (MH) has provided support to the Multiprofessional Health Residencies (RMS), with the purpose of qualifying professionals in the area and contributing to the transformation of the techno-assistance model of the Unified Health System (SUS). This is necessary because the SUS needs to undergo reformulations involving the various professionals who make up the health care framework. Multiprofessional teams emerge as a care proposal based on the principles of universality, comprehensiveness, equity, intersectoriality, social participation and humanization of care, as recommended by the SUS¹.

The Multiprofessional Residency seeks to train health professionals who have a vision directed to the reality of patient care in the daily context of health services. Thus, the residency allows the professional to acquire practical experience through daily work, as well as theoretical knowledge through disciplines and activities based on both their individual and multiprofessional functions².

In this residency program, one of the categories contemplated is that of the clinical pharmacist. The area of clinical pharmacy focuses on patient care, aiming at the promotion, protection, recovery of health and prevention of problems caused by the inappropriate use of medicines. Clinical pharmacists adopt behaviors that seek to optimize pharmacotherapy, promote the rational use of medications and, whenever possible, improve the patient's quality of life. Through the analysis of pharmacological therapy, interprofessional teamwork and the use of research tools, pharmacists play their role in providing the best possible care to the patient, in addition to providing quality information to the health team, with the aim of reducing drug-related adverse events and increasing patient safety³.

In addition, in the context of pharmacological treatment in children, it is crucial to consider that physicians often need to extrapolate information from approved drugs for adults. However, this practice compromises both the efficacy and safety of treatments, as highlighted by several experts in the field⁴. This perspective highlights the need for specific and well-founded pharmacotherapeutic care for pediatric patients, reinforcing the importance of the role of the clinical pharmacist in interprofessional pediatric health teams.

In order to identify and prevent adverse drug reactions and avoid preventable drug-related problems, several certified hospitals have been striving to establish Clinical Pharmacy Services (SFC). In the last ten years, there has been a growing recommendation by the *American Academy of Pediatrics*, the *American College of Clinical Pharmacy* and several specialized articles in the area, encouraging multifaceted collaboration between pediatricians, intensive care physicians and clinical pharmacists⁵.

According to a study conducted in Australia's public health system, the use of a digital health service for interventions, such as *GuildLink*, improved reporting of adverse

drug reactions. However, this intervention showed only marginal effects in increasing reports of adverse drug reactions. Based on the results of the review, potential areas for improvement in the reporting of adverse drug reactions in Australia include the need for more effective strategies to increase awareness and reporting of adverse drug reactions among consumers and healthcare professionals⁶.

The clinical pharmacist plays an important role in the multidisciplinary health team and can contribute to improvements in the care provided to patients, especially in pediatric services. The multiprofessional residency in health is an opportunity for the development of competencies and skills in this area, through the integration between theory and practice.

The objective of this experience report was to describe the work of a resident pharmacist in the general ward service of a pediatric referral hospital in the State of Ceará. To this end, practical clinical pharmacy activities were developed, aiming to provide pediatric patients with quality pharmacotherapeutic care. The study also aimed to describe the clinical activities performed by the pharmacist, as well as to start recording these activities for the production of clinical indicators.

METHODS

The objective of this report is to describe the professional experience and its relevance in the training of the individual, in the context of pediatrics, by a resident pharmacist. This is a descriptive study, with a qualitative approach.

The fact that this was an experience report did not require submission to a Research Ethics Committee. However, all ethical principles were strictly observed, as recommended by research.

The research was conducted in a reference hospital for the North and Northeast regions of pediatric care, located in the capital of the State of Ceará, Fortaleza, Brazil. The hospital experience took place in the general pediatrics service, also known as the general ward, which receives patients coming from the emergency department or who were discharged from the ICUs, during the period from March to May 2021, by a resident pharmacist in Pediatrics of the Multiprofessional Health Residency Program.

It is important to highlight that the pediatric institution offers a variety of services, including pediatric cardiovascular surgery, long-term care for cancer patients, a center for the treatment of cleft lip and palate, a reference center for the monitoring and treatment of sickle cell diseases, as well as other hemoglobinopathies and cystic fibrosis.

RESULTS

During the study period, the resident pharmacist had the opportunity to work in the general pediatrics service of a pediatric referral hospital in the state of Ceará. Throughout this period, it was possible to integrate theoretical knowledge with practice, with the main objective of promoting activities related to clinical pharmacy and ensuring quality pharmacotherapeutic care for pediatric patients.

The main clinical activities performed by the resident pharmacist included pharmacotherapeutic follow-up and drug reconciliation.

Medication reconciliation is a process by which an accurate and comprehensive record of the medications used by the patient is obtained, including information such as name, dosage, frequency of use, and route of administration. This makes it possible to adjust drug therapy during care transitions, such as hospital admission, internal transfer, and hospital discharge⁷.

The practice of pharmacotherapeutic follow-up has enabled a more patient-centered care, involving the analysis of dosage, form of administration and adequate storage of medications, as well as the evaluation of drug interactions, interactions between drugs and nutrients, dosage adjustments for patients with kidney and liver problems, and detection of adverse reactions⁸.

In addition to these activities, several pharmaceutical interventions were performed and information on medications was provided to the multidisciplinary team⁹. It is important to highlight that all these activities were duly recorded in standardized forms of the hospital's clinical pharmacy service, contributing to the construction of the indicators shown in Chart 1.

Chart 1. List of clinical pharmaceutical practice indicators adopted in the pediatric hospital institution.

No.	Pharmaceutical Clinical Practice Indicator (monthly)
1	Rate of medication reconciliations (%)
2	Rate of prescriptions reviewed by the pharmacist (%)
3	Rate of identified PRMs (%)
4	Rate of accepted pharmaceutical interventions (%)
5	Number of reasons for pharmaceutical intervention not accepted
6	Rate of pharmacotherapeutic follow-up performed (%)
7	Hospital discharge rate with pharmaceutical guidance (%)
8	Number of clinical discussions held by pharmacists
9	Number of participations in multiprofessional visits

Note: Drug-Related Problem (PRM), Number (No.).

Source: Prepared by the authors.

Regarding the limitations observed in the experience, the possible challenges in the practical application of theoretical knowledge in a clinical setting, especially in specific situations involving pediatric patients, can be highlighted. In addition, the need for systematic recording of clinical activities for the production of clinical indicators may require additional resources and time.

On the other hand, the potential of the experience includes the opportunity for the resident pharmacist to apply theoretical knowledge in practice, promoting activities related to clinical pharmacy and providing quality pharmacotherapeutic care to pediatric patients.

DISCUSSION

From the experience in the general ward setting, the resident pharmacist was able to put into practice the theoretical knowledge acquired in the undergraduate and residency programs, developing activities related to clinical pharmacy, such as prescription review, pharmacotherapeutic follow-up, guidance to patients and their families on the correct use

of medications, identification of possible drug interactions, and counseling on the correct way to store medications.

The role of clinical pharmacists in pediatric services is extremely important, since the pediatric population has particularities that need to be considered in the prescription, dispensing and administration of medications. In addition, it is important to emphasize that the pharmacotherapeutic follow-up of children and adolescents can be even more complex than in adults, due to the variation in age, weight and height, in addition to the possibility of changes in the physiological and psychological development of these patients.

A relevant activity developed by the resident pharmacist was the participation in multidisciplinary visits with the health team, in order to discuss the clinical cases and the possible adverse effects on the therapeutic approaches. Such adverse manifestations are a consequence of a series of interconnected systemic elements, including approaches, values, work actions, management of excellence, anticipation of risks, and the ability to absorb lessons from failures¹⁰.

It is important to highlight the relevance of the production of clinical indicators to assess the effectiveness of the activities performed by the clinical pharmacist in pediatric services. These indicators can be used to monitor the evolution of patients, identify possible drug-related problems, and assess the impact of pharmaceutical interventions on patients' quality of life.

Thus, the significance of the Multiprofessional Health Residency (MSM) is highlighted, covering the fundamental elements of interactions and methods in all areas of interest or social importance that contribute to improving the health of the population, both in the approach to epidemiological aspects and in the care of the health-disease process¹¹.

CONCLUSION

The final considerations of this study emphasize the relevance of the clinical activities performed by the resident pharmacist in the Multiprofessional Residency Program in Pediatrics, highlighting the focus on promoting the quality of pharmacotherapeutic care offered to pediatric patients. In addition, it is important to highlight the need to initiate the systematic recording of these activities for the production of clinical indicators, aiming at the continuous improvement of health services.

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