

## Implementation of pharmaceutical care: Important aspects for a lasting service

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This is a commentary manuscript, which aims to carry out a critical analysis of the effects of Pharmaceutical Care (PC) without the continuity of the service by healthcare professionals. PC has proven to be a very effective practice for improving pharmacotherapy for medicine users. In Brazil, it is noticeable that in the vast majority of cases, PC is carried out by professionals who are already working within the healthcare systems under the supervision of researchers affiliated with universities, for the purpose of research and data collection. When the research ends there is no continuation of the service, which hinders its continuous implementation and the establishment of a connection with the community. It was observed that after discharge from pharmacotherapeutic monitoring, due to the interruption of the service, there was a deterioration in the clinical and laboratory parameters of individuals with chronic diseases. Therefore, it is clear that PC needs to be implemented not only for research purposes, but also in the “real world”, so that it is long-lasting and permanent with the monitoring of the patients using medication.

**Keywords:** Health Systems. Pharmaceutical care. Pharmaceutical Services.

Within the Pharmaceutical Care (PC) practice, the pharmacist has the responsibility to guarantee effective and safe pharmacotherapy, in addition to ensuring correct adherence to the treatment. The implementation of this service has demonstrated many benefits for patients and health systems (Apikoglu *et al.*, 2022; Foucault-Fruchard *et al.*, 2020; Lum *et al.*, 2019).

Many studies explain the clinical, economic, and humanistic benefits of PC in Brazil and around the world

(Posses *et al.*, 2022; Coradi *et al.*, 2020; Franco, Jesus, Abreu, 2020; Pereira *et al.*, 2018; Hohl *et al.*, 2017; Obreli-Neto *et al.*, 2011). However in Brazil, a large portion of the studies are affiliated with universities with the purpose of research projects (scientific initiation, extension, master's and doctoral projects) without continuity once data collection concludes (Mendonça *et al.*, 2022; da Silva *et al.*, 2022). Thus, most of the time the services are not permanent, and the results are not long-lasting.

A retrospective cohort study covering post-PC discharge (four years later), found that glycated hemoglobin (HbA1c) levels in the intervention group were maintained (8.5 % vs. 8.0 %,  $p = 0.082$ ), while the control group decreased (9.1 % vs. 8.1 %;  $p = 0.004$ ). However, diastolic blood pressure decreased in the intervention group (80.1 vs 77.2;  $p = 0.004$ ), while in the control group it was maintained ( $p = 0.433$ ) (Pereira *et al.*, 2018). Such results

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can be explained by the number of antidiabetics used in both groups and the fact that reducing a higher HbA1c (as in the control group) is easier than verifying decreases when HbA1c is more controlled (intervention group). A question that can be asked is: “If PC had actually been implemented, wouldn’t HbA1c levels in the intervention group have decreased more?”

Other studies have shown that the favorable outcome in patients’ health during pharmaceutical consultations was lost with the absence of the research team (where PC is not implemented) (Aquino *et al.*, 2019; Cazarim *et al.*, 2016). A study conducted with patients with type 2 diabetes mellitus found satisfactory results, with a reduction in HbA1c levels after PC. However, 18 months after patients were discharged, an increase in HbA1c levels was observed, similar to pre-intervention levels. This was probably due to the fact that the study was carried out by researchers, without the involvement of service professionals, making continuous PC for patients impossible (Aquino *et al.*, 2019). A similar effect was observed in a study conducted with patients with systemic arterial hypertension, in which it was observed that blood pressure levels reduced during PC, but the values increased significantly with the absence of pharmacotherapeutic monitoring (three years post-discharge) (Cazarim *et al.*, 2016).

Considering that PC is indeed effective in controlling various comorbidities, especially chronic (Mendonça *et al.*, 2022; Wang *et al.*, 2022), it is necessary for the service to be implemented permanently in health systems. It is important that when following implementation protocols, a more individualized approach is used in each location, taking into account its peculiarities (Garcia-Cardenas *et al.*, 2019). To make adaptations to protocols already used, it is important to know the scenario where PC is planned to be implemented, the profile of the local population, as well as the profile of the pharmacist and the multidisciplinary health team. Some points facilitate implementation, others hinder it. Using strengths which facilitate the flow of care, not only for the pharmacist but for the team as a whole is seen as encouraging, both from a clinical and management point of view. The same happens with barriers; devising strategies to overcome them is something that will make

implementation happen (Waltering, Schwalbe, Hempel, 2022; Ilardo, Speciale, 2020).

It is known that lasting health results are multifaceted and depend on clinical factors and others that affect or influence the individual’s health in a determinant way (Carrapato, Correia, Garcia, 2017). Therefore, it is important to highlight that in addition to the manager’s support, some barriers need to be overcome to ensure the successful implementation and permanence of the service, such as the need of qualified pharmacists to carry out the service, physical structure, available hours of the pharmacist, among others.

In this way, the pharmacist needs to remain close to the medication users within the community (Dewulf *et al.*, 2009), exercising their clinical duties (Gemmeke *et al.*, 2021). The population and other health professionals need to know the work of the clinical pharmacist and, in this way, patients will arrive both voluntarily and also by referral (Marques *et al.*, 2019). It is also important to highlight that studies that evaluate post-PC discharge are scarce in the literature (Pereira *et al.*, 2018). The permanent implementation of PC is a great alternative to assess how the patients are doing in relation to their pharmacological treatment and continue the care for them and for new patients.

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