

Digital transformation of injectable ophthalmic medication circuit: enhancing safety and efficiency

INTRODUCTION

The core objective of healthcare institutions is to ensure patient safety and maintain the highest quality of care throughout every medical procedure.

This principle must extend to the drug circuit as well. Within our hospital, pharmaceutical services have a dedicated route for producing injectable ophthalmic medications, serving 795 patients and yielding 3720 solutions, in 2022. However, the existing paper-based procedure for medication management is laborious, time consuming and error-prone, demanding full-time constant pharmacist involvement to ensure the secure progression of these medications [1-3].

OBJECTIVES

To describe the development of a software specifically designed to streamline the complexities of this medication pathway.

MATERIALS & METHODS

Comprehensive narrative depiction of the software application development - conceived on the Power Apps platform -, followed by an in-depth analysis of its associated advantages.

RESULTS

Over two months, needs of pharmaceutical and ophthalmology services were assessed, soliciting input from pharmacists, ophthalmologists, nurses and administrative personnel. Subsequently, a software application was developed featuring 4 distinct interfaces, customized for each professional group involved. This application enables patient registration, medical prescription, schedule management and monitoring the injectable solutions' production - prescription and agenda validation, batch management and generation of identification labels.

This project is presented, therefore, as a customized digital solution, the result of a multidisciplinary collaboration.



DISCUSSION & CONCLUSION

It is the authors' belief that this software has allowed for the development of a safer, more efficient, and integrated workflow, as an alternative to paper - which is more prone to errors. In this manner, from a pharmaceutical perspective, it simplifies the workflow, freeing the pharmacist to focus on other important tasks and optimizing personnel management. Furthermore, it is also valuable for ophthalmologists, enabling prescription repetition and access to patient history, as well as for administrative staff, streamlining schedule management.

This software is set to transform our injectable ophthalmic medication circuit. Further studies confirming its advantages are in progress. Its validation would establish its potential and applicability across healthcare settings.

