

THERAPEUTIC ADVANCES in *Drug Safety*

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included, mostly using regular human insulin at 1 IU/mL with vehicles such as 0.9% sodium chloride, balanced salt solution or artificial tears. Reported stability ranged from 7 to 120 days under refrigeration. Concerns regarding insulin adsorption and m-cresol toxicity were identified but considered clinically insignificant. Based on these findings, insulin eye drops are now aseptically compounded in a horizontal laminar airflow cabinet using Actrapid®, diluted to 1 IU/mL in 0.9% sodium chloride and sterile-filtered. A beyond-use date of 10 days under refrigeration was assigned due to the absence of microbiological validation. Testing is planned to support extending the beyond-use date to 21 days, based on physicochemical data from Stabilis®. **Conclusions:** A safe, reproducible, and clinically useful insulin eye drop protocol was successfully established. However, the absence of complementary stability studies, particularly pH and high-performance liquid chromatograph, remains a limitation.

Keywords: Insulin Eye Drops; Persistent Corneal Epithelial Defects; Hospital Pharmacy

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Abstract-Post-34 Patient-Centered Safety

The barriers to safe medication use in older people - a systematic review

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Background: The population is ageing, and Portugal stands out as one of the oldest countries in the European Union, with a high ageing index [1]. Ageing leads to physiological changes that affect health and pharmacokinetics [2]. In Portugal, 36.9% of older adults are polymedicated [3]. **Aims:** The aim of this study was to identify the barriers that older adults face daily and that compromise their safety when taking medicines. **Methods:** Systematic review according to the PRISMA protocol, registered in PROSPERO, and analysis of the quality of the articles using the JBI Checklist for Systematic Reviews and Research Syntheses. **Results:** 34 studies were included, of which 33 identified barriers to safe medication use. Internal barriers (78.8%) were identified, including physical limitations (mobility, vision, hearing), cognitive difficulties, social isolation, low health literacy, financial difficulties, and the complexity of pictograms in instructions (before and after training). External barriers (78.8%) were also identified, such as polypharmacy (44.12%) and the complexity of therapeutic regimens (23.53%), which involve communication failures between health-care professionals and between them and patients, lack of specific training in geriatrics, structural limitations in pharmacies, and complex therapeutic regimens. Polypharmacy, treatment by multiple doctors, and the pharmaceutical form make it difficult to administer medications correctly, reducing adherence to therapy. **Conclusion:** It is concluded that polypharmacy and low health literacy are key internal barriers, while limited interprofessional collaboration and inadequate pharmacist training constitute external challenges, requiring systemic healthcare reform, including continuing education and improvements in communication between healthcare professionals.

Keywords: Barriers, Community Pharmacy, Safe Use of Medicines

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