

Compatibility of Age-Appropriate Compounded Oral Suspensions

Marios G. Kostakis¹, MSc, PhD; Anastasia Koupa¹, MSc; Nikolaos S. Thomaidis¹, PhD; Paraskevas Dalla², MSc, PhD; Carolina C.V. Silva³, PhD; Carolina Kegele³, MSc; Eli Dijkers³, PharmD, PhD, hospital pharmacist; Maria Kousteliou³, MSc; Savvas Koulouridas³, MSc; Konstantinos Koulouridas³, MSc; Hudson C. Polonini^{3,*}, MSc, PhD.

What was done and why

- Oral administration is the primary route for drug delivery.
- Standard medications often fail to meet the needs of neonates, infants, children, and older adults.
- Challenges include dose adjustments, swallowing difficulties, inaccurate dosing, and reduced drug stability.
- Compounded medications offer a tailored alternative for individual patient needs.
- This study assesses the compatibility of oral suspensions with SyrSpend® SF across nine pharmacological classes.

How it was done

- Twenty-two APIs were compounded with SyrSpend® SF PH4 liquid.
- Storage conditions: refrigerated (2-8°C), and room temperature (20-25°C).
- Compatibility assessment: monitored over 90 days.
- Analysis method: stability-indicating HPLC-UV measuring percent recovery.

What was achieved

- Most compounded suspensions remained stable for 90 days under refrigeration and at room temperature for up to 90 days.
- Cimetidine required adjustment to pH-4 during compounding.
- Detailed stability results are shown in figure 1.

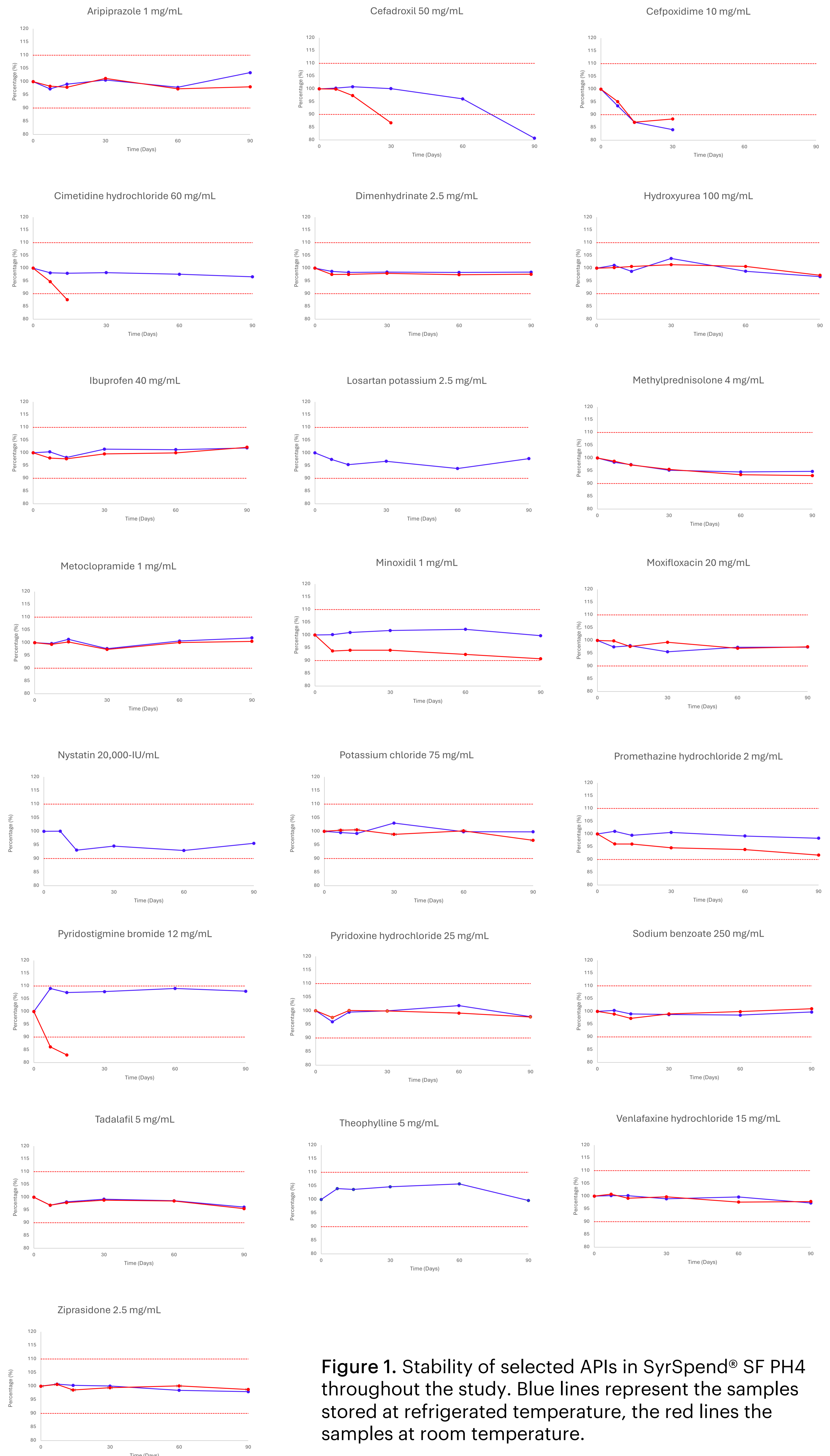


Figure 1. Stability of selected APIs in SyrSpend® SF PH4 throughout the study. Blue lines represent the samples stored at refrigerated temperature, the red lines the samples at room temperature.

¹Laboratory of Analytical Chemistry, Department of Chemistry, School of Science, National and Kapodistrian University of Athens, Athens, Greece.

²Section of Pharmaceutical Technology, Department of Pharmacy, School of Health Science, National and Kapodistrian University of Athens, Athens, Greece.

³Fagron BV – Rotterdam, The Netherlands. *Corresponding author: hudson.polonini@fagron.com

