INFLUENCE OF DIFFERENT CAPSULES FOR INHALATION ON THE AERODYNAMIC PERFORMANCE OF FORMOTEROL DRY POWDER FORMULATION AT DIFFERENT FLOW RATES

INTRODUCTION
An ideal inhalation medicine has to deliver an accurate delivered dose (DD) and fine particle dose (FPD) with low dependency on the patient’s inspiratory airflow [1]. The capsule is an important part of capsule-based dry powder inhalers (DPIs) because it participates in the packaging of the formulation, the aerosolization of the powder and the dispersion of the drug in the airway. Therefore, it is important that the INFLUENCE OF DIFFERENT CAPSULES FOR INHALATION ON THE AERODYNAMIC PERFORMANCE OF FORMOTEROL DRY POWDER FORMULATION AT DIFFERENT FLOW RATES

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AIM OF THE STUDY
Storage time at 20°C SDS RH (≥ 3 weeks) was applied on filled capsules before analysis. All capsule types were analyzed at the same time to evaluate only the capsule influence.

RESULTS AND DISCUSSION

CONCLUSIONS
It is well known that the patient can generate different flow rates through his/her device relating to its resistance. Therefore, it is important that the combination of the dry powder for inhalation and its capsules presents high FPD with low dependency on a flow rate corresponding to a pressure drop comprised between 2 and 3 kPa and low capsule retention. HPMC capsules showed higher and more robust FPD at this flow rate than gelatin capsules. Moreover, Quali-V® I showed the lowest capsule retention at all tested flow rates.