

Abstract

Charles University in Prague, Faculty of Pharmacy in Hradci Králové

Department of: Pharmaceutical technology
Consultant: Doc. PharmDr. Zdenka Šklubalová, Ph.D.
Student: Julie Strážnická
Title of Thesis: Study of the storage temperature influence on the weight of
eye drops

Eye drops are a conventional dosage form for a topical application of ophthalmic drugs. Even a size of an applied drop, being influenced by many factors, significantly affects bioavailability of the drug. The object of the thesis was research into an effect of storage temperature, the residual volume of the preparation ranging from 1 to 5 ml, and the dispensing angle on the weight of commercial eye drops. Based on the results, storage temperature 8°C and/or 25°C, respectively, and the residual volume did not significantly affect the weight of the eye drop. The significant effect of the dispensing angle on the drop weight was influenced due to the wetting of a dropper tip. With a dispensing angle of 90°, an average weight of the drop was 30 mg for the non-wetted dropper tip, while an average weight of the drop approximately 35 mg was noted for the wetted dropper tip. Decreasing the dispensing angle from 90° to 45° from the horizontal resulted in significant increase in the weight of drop to 37 mg due to the formation of a drop from the wetted external lateral surface of the dropper tip.