

# STUDY OF THE ABSORPTION OF PUMPKIN OIL BY EXCIPIENTS

Popovich O. Y.

Scientific supervisor: Kovalevskaya I. V., PhD in Pharmaceuticals

National University of Pharmacy, Kharkiv, Ukraine

inga.kovalevskaya@gmail.com

**Introduction.** The use of vegetable raw materials in pharmaceutical industry allows expansion of assortment of drugs through creation of new effective drugs with minimal side effects. Drugs based on extracts are inconvenient in use and have unsatisfactory consumer properties. Thus, the actual task in pharmacy is development of composition and technology of drugs that have satisfactory consumer properties.

**Aim.** Research of the absorption of pumpkin oil by excipients used in manufacturing.

**Materials.** Pumpkin oil, microcrystalline cellulose (MCC) 102, 103, 302, Neusilin,  $\beta$ -cyclodextrin, Collect and granule samples were used as research objects.

**Methods.** For selection of excipients physico-chemical and technological research methods were used.

**Results.** Absorbing capacity was studied by the rate of oil's penetration of excipients layer, by mass fraction and depth of oil's penetration into the layer of absorbent. The achieved results show that by mass fraction of absorbed oil MCC 102, Neusilin and MCC 302 have the best indicators (69.49%, 68.21%, 64.05% respectively). The biggest depth of layer penetration of oil goes to MCC 102 (5.0 cm), Collect (4.8 cm) and Neusilin (4.7 cm). The best indicators of oil's penetration rate go to MCC 102 (1.4 cm/min), Neusilin (1.1 cm/min),  $\beta$ -cyclodextrin (0.9 cm/min). During the course of the work sample granules containing these supplementary substances and pumpkin oil were acquired, which had organoleptic properties. Sample granules with Neusilin had solid white texture with oil being not prominent. Sample granules with MCC 102 and Collect were not matching organoleptic properties as the acquired granules did not have solid mass, had leaking oil and stuck in perforated plate's openings.

**Conclusions.** The acquired results of the research show that MCC 102 (69.49%) and Neusilin (68.21%) have the best absorbing capability. Sample granules based on them exhibited different organoleptic capabilities. The most satisfactory results were shown by the tableting mass based on Neusilin. It can be concluded that the optimal option in manufacturing of solid dosage forms with inclusion of pumpkin oil is the usage of Neusilin as the excipient.