the effectiveness and safety of the eye drops in a premature infant.

**Material and methods** Case description: a premature infant (26 weeks’ gestation) was diagnosed with conjunctivitis due to *Stenotrophomonas maltophilia* multi-resistant, sensitive to levofloxacin. The neonatal intensive care unit requested the manufacture of levofloxacin based eye drops.

The pharmacy service initiated a bibliographic search to find out the indication, dosage, manufacture and stability of levofloxacin 0.05% based eye drops.

**Results** We decided to prepare it with injectable levofloxacin 500 mg/100 mL, taking into account the physical and chemical characteristics of the active substance (pH, osmotic concentration and excipients), to ensure that it is effective, safe and stable.

- non-contraindicated excipients (injectable excipients: water, HCl and NaOH);
- acceptable pH (4.4–5.5) and osmotic concentration (300–310 mOsm/l).

We packaged the parenteral solution in a horizontal laminar flow cabin, filtering it with a 0.22 μm filter, in a light protected eye drops bottle. We checked whether it was clean and particle free. The validity period was established: 9 days inside a refrigerator, according to the risk matrix for sterile preparations included in the ‘Guía de Buenas Prácticas de Preparación de Medicamentos’.

The patient was started on treatment with levofloxacin 0.05% eye drops with the following dosage regimen: 1 drop every 6 hours. We recommended including the nasolacrimal canal for at least 2 min in order to avoid systemic absorption of the eye drops when administered via the eyes and to decrease any systemic adverse reactions. The patient showed good progress, so we decided to interrupt the treatment after 7 days due to symptomatic improvement with no conjunctivitis secretion. The eye drops were well tolerated.

**Conclusion and relevance** To manufacture eye drops it is necessary to know the physical and chemical characteristics of the active substance (pH, osmotic concentration and excipients), to ensure that it is effective, safe and stable.

The eye drops were effective and well tolerated in this premature infant, which means that it can be considered as a good option for other patients.

**REFERENCES AND/OR ACKNOWLEDGEMENTS**

No conflict of interest.
EVALUATION OF THE PRODUCTION ACCURACY AND ERROR RATE IN THE AUTOMATED COMPOUNDING OF CYTOTOXIC PREPARATIONS BY A ROBOT

Aim and objectives The study aimed to verify the production accuracy of APOTECAchemo as well as the error rate of the robot during compounding.

Material and methods Using the statistical software ‘APOTECAm@A’, which allows regular checking of the performance of the robot, the pharmacy production of 20 anticancer active ingredients was monitored from January to October 2018, focusing on the dosage accuracy (%) of the preparations automatically compounded and the robot error rate.

The results of the analysis will define the performance of the automation in terms of preparation quality and safety, and production efficiency in the daily routine of the pharmacy.

Results During the study period, 8478 automated preparations were compounded with APOTECAchemo by the pharmacy. The error rate of the robot was ~1% of the total automated production. Regarding the accuracy of the successful preparations compounded by APOTECAchemo, 97.5% of the preparations had a dosage accuracy between 0 and ±3%. The remaining 2.5% of the preparations produced with the robotic system were within the ±5% tolerance limits defined by the pharmacy as acceptable.

Conclusion and relevance The analysis carried out by APOTECAm@A showed high dosage accuracy in combination with a low percentage of errors in the automated production. The data show high quality as well as high reproducibility of safe production using APOTECAchemo.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

CLOSED SYSTEM TRANSFER DEVICE BASED ON AIR FILTRATION: THE DRUG VAPOUR CHALLENGE

Background and importance Chemotherapy drugs were shown to form hazardous vapours that pose a health risk to pharmacists and nurses. One of the aims of using a closed system transfer device (CSTD) is to prevent this harmful exposure. The vapour containment efficiency of air filtration CSTDs is perceived as less obvious compared with that of physical barrier based CSTDs, and therefore should be proven throughout the shelf life of these devices in order to support the claims of its instruction for use (IFU).

Aim and objectives The aim of the study was to test the drug vapour containment capacity of Chemfort, a new air filtration CSTD. The objective was to investigate if the air filter remained functional at the end of the shelf life (3 years). According to the IFU, the device can be used on a drug vial for a period of 7 days, and thus the study also tested the filter functionality after it was exposed to vapours of a hazardous drug for 7 days.

Material and methods The study was performed by Nextar Labs ( Nes Ziona, Israel). Vial adaptors (VA) were applied on drug vials (cyclophosphamide, 5-fluouracil (5-FU)). Extreme conditions were used to generate vapours—heating to 50°C and having a nitrogen gas flow (250 mL/min) into the vial for 5 hours via the VA fluid pathway. A closed test chamber was employed for capturing drug vapours. Vapours released through the air filter were trapped, recovered and quantified using validated LC/MS/MS methods. As a positive control,