

The compounded product has suitable pharmaceutical characteristics, such as rheology, *in vitro* release profile and a pH value suitable for oral administration.

Its clinical application in a patient with grade 3 mucositis resulted in excellent acceptability and significant reduction in the degree of mucositis (for grade I) and re-introduction of EVR into the therapeutic regimen at the end of a week of treatment with the gel.

Conclusion This mucoadhesive gel can be an effective option for the prophylaxis/treatment of oral mucositis, for its prolonged residence time in the oral cavity and easier administration. The pleasant taste promotes a good therapeutic compliance, as well as the smooth and suitable texture for the treatment of an aggressive mucosa. The inclusion of more patients in this study will validate these assumptions.

REFERENCE AND/OR ACKNOWLEDGEMENTS

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3PC-049 MOBILE APPLICATIONS RELATED TO PARENTERAL NUTRITION: QUALITATIVE AND QUANTITATIVE ANALYSIS

¹JT de Pourcq*, ²JA Montero Delgado, ¹M Gomis Pastor, ²C Fraile Clemente, ²FJ Merino Alonso. ¹Hospital de la Santa Creu i Sant Pau, Pharmacy Service, Barcelona, Spain; ²Hospital Universitario Nuestra Señora de Candelaria, Pharmacy Service, Santa Cruz de Tenerife, Spain

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Background In recent years, health apps have increased exponentially, with more than 3 25 000 available.

Because of the lack of regulation, some of these apps may offer inaccurate content or may not reach the minimum quality standards in order to be used by healthcare professionals.

Purpose Analyse the availability of parenteral nutrition (PN)-related apps for mobile devices and their quality according to the Mobile App Rating Scale (MARS).

Material and methods Cross-sectional study performed in October 2018.

A search was conducted of two major mobile platforms: Apple's App store and Google Play Store. The keywords used to identify the initial sample was 'parenteral nutrition'.

The exclusion criteria were:

- Not related to PN.
- Non-medical category.
- No English or Spanish language.
- Not updated <36 months.
- Non-free apps.

The selected apps were downloaded on a smartphone and on a tablet of both systems in order to be analysed. The app's quality and reliability were measured by means of MARS (score 0–5 points). MARS includes a 4-item subjective assessment which was also used to analyse the apps. Other variables analysed were: social score (for Android apps), availability in operative systems and devices, and price.

Data collection and statistical analysis were performed in a Google Drive spreadsheet.

Results Of the 34 apps identified, only six met the inclusion and exclusion criteria. All were addressed to healthcare workers, standing out those addressed to ICU or neonatal units.

The mean MARS was 2.82 (2.41–3.75). The mean social score was 4.65. The three apps with best MARS (0–5) were ASPEN ebooks (3.75), UCIN-Calc Beta (3.06) and Nutricion Parenteral UCI (2.68). These also obtained the best score in the subjective assessment (2.5, 3.25 and 2.25 respectively). The other analysed apps obtained a MARS <3 points and a subjective score <2 points.

Conclusion There are few updated apps related to PN, and they are all addressed to healthcare professionals. Only a few PN apps have enough quality to be used by healthcare professionals with guarantees of their activity.

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3PC-050 APPLICATION OF HAZARD VULNERABILITY ANALYSIS TO EVALUATE POTENTIAL RISKS OF PHARMACY COMPOUNDING

R Giammona*, P Polidori. *IRCCS ISMETT, Clinical Pharmacy, Palermo, Italy*

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Background Hazard vulnerability analysis (HVA) is a method that provides a systematic approach to identifying the hazards and the direct and indirect effects that they have on the hospital pharmacy.

Purpose The objective of this study was to identify the phases at the greatest risks, to find solutions to reduce the risk level and to enhance patient safety.

Material and methods We have adapted this method to all the stages of drug compounding. We analysed 45 different events concerning the preparations of drugs. For each process, a score of 0 to 3, has been assigned for the following items: probability of the event happening (0=none/unknown; 1=low; 2=moderate; 3=high); magnitude of impact divided into human impact (probability of death or injury), property impact (physical losses and damages) and business impact (interruption of services) (0=none/unknown; 1=low, 2=moderate, 3=high); and mitigation factors divided into preplanning, internal response and external response (0=none/unknown, 1=high, 2=moderate, 3=low). The severity of the event determined using the difference between the magnitude of impact and the degree of mitigation. The risk was obtained by multiplying the probability by the severity.

Results Only 6/45 (13.3%) of all phases showed a risk of more than 50%. The risk related to the lack of prescription and, consequently, preparation made after a doctor's call, was 52%. The risk related to the preparation of the drug that caused allergy to the patient noted in the electronic medical record was 56%. The risk due to the preparation of the drug that caused interactions with other drugs administered to the patient was 52%. The risk of the wrong quantity of drug prepared was 67%. The risk related to the error in the choice of the solvent to be used was 52%. The risk due to incorrect labelling was 56%.

Conclusion Based on these results, we have identified some solutions to reduce the risk: the double-check carried out by two different people could solve the risk due to incorrect labelling; and the software used by pharmacists can be improved to reduce the risk related to the patients' allergy or cross-reaction. Finally, errors can be reduced through clearer and specific sessions of training for the compounders.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

3PC-051 IMPACT OF OPHTHALMOLOGICAL PREPARATIONS IN THE PHARMACY SERVICE OF A REFERENCE HOSPITAL

I Salar Valverde, N Manresa Ramon, M Gil Candel*, M Onteniente Candela, C Pastor Mondejar, C Caballero Requejo, C Iniesta Navalon, M Garcia Coronel, E Urbieta Sanz. *Hospital General Universitario Reina Sofia, Hospital Pharmacy, Murcia, Spain*

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Background There are many medicinal products that, although they have shown efficacy and safety in different ophthalmological indications, are not authorised or commercially available for ophthalmic administration.¹

Purpose To evaluate the elaborations of ophthalmological medicines which must be prepared in the pharmacy service.

Material and methods This was a retrospective study of ophthalmological preparations in a reference hospital from January 2016 to December 2017. The parameters measured were treatment, administration (eye drops or intraocular injections) and economic impact.

Data source: SAVAC computer system.

Results Over the studied period, 37 618 ophthalmological preparations were elaborated in our laboratory: 20 430 (2017) and 17 188 (2016).

The preparation of eye drops were 16 838 (2017) and 13 990 (2016). During 2017, we observed that autologous serum 20% supposed 8810 preparations, cyclosporine 0.05% (6,800), autologous serum 50% (313), vancomycin 5% (200) and ceftazidime 5% (150). The main increase was concentrated in autologous serum 20% eye drops and cyclosporine 0.05% eye drops (17% and 20%, respectively).

The preparation of intraocular injections were 3592 (2017) and 3128 (2016). During 2017, the five preparations with the highest number of preparations were: cefuroxime 1 mg/0.1 ml (1,630); aflibercept 2 mg/0.05 ml (1,193); vancomycin 1 mg/0.1 ml (481); ceftazidime 2 mg/0.1 ml (130); and bevacizumab 5 mg/0.2 ml (74). It can be observed that these five preparations were 96% of the total intraocular injections. The main increase was concentrated in the saving of aflibercept 2 mg/0.05 ml intraocular injections.

It has also been shown that bevacizumab 2.5% eye drops (€ 12,008,4/year) and intravitreal syringes of aflibercept 2 mg/0.05 ml (€ 244,920/year) account for 98% of the total expense (€ 260,920) in ophthalmology preparations.

Conclusion The ophthalmological preparations in a pharmacy hospital have increased by 19%. Autologous serum 20% and cyclosporine 0.05% were impacted of 92% eye drops, including the longest storage duration tested. They must be prepared in the pharmacy service according to quality criteria to ensure its effectiveness, stability and sterility,¹ and supposed a high economic impact (€ 260,816.76)

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3PC-052 CHEMICAL DISINFECTANTS VS STERILE WATER AND COMPOSITE FIBRE: THE EFFECT OF CLEANING METHODS ON MICROBIAL CONTAMINATION IN A CLASS A PHARMACEUTICAL COMPOUNDING ENVIRONMENT

E Gleditsch. *Sykehusapotekene HF – Oslo Hospital Pharmacy, Manufacturing, Oslo, Norway*

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Background Chemical disinfectants have traditionally been used to clean pharmaceutical facilities to ensure acceptable microbiological conditions. However, the use of such agents are costly, time-consuming and environmentally undesirable. Exchanging the disinfectants with sterile water and composite fibre cloths was tested in a class A hospital pharmacy compounding environment with regard to their effects on microbiological contamination.

Purpose The goal of the project was to establish whether an acceptable level of microbiological cleanliness could be upheld in the production facility when cleaning with sterile water and composite fibre cloths instead of traditional chemical disinfectants.

Material and methods The sterile chemical disinfectants used were an alternating regimen of Klercide Quat/Biguanide, Amine, Sporicidal low residue peroxide and neutral detergent, provided by Ecolab (St Paul, MN, USA). The alternative system, consisting of sterile water and composite fibre cloths, was provided by De forenede dampvaskerier (Viima, Maribo, Denmark). Klercide Sterile 70% ethanol (Ecolab, St Paul, MN, USA) was used for disinfection of grade A between each production, and for surface disinfection of materials to be transferred into grade A.

The effect of cleaning methods was compared for four pharmaceutical isolators and two biological safety cabinets, all of class A grade. The quality of the microbiological conditions was monitored with glove prints, settle plates and contact plates (Tryptone Soya Agar, Oslo University Hospital, Oslo, Norway).

The rate of contaminated tests (≥ 1 cfu/plate) for glove prints, settle plates and contact plates in class A in a 24 month period before and after the change in cleaning method were compared.

Results The rate of contaminated tests were comparable for the 24 month period before and after the change in cleaning method. The rate of positive tests (≥ 1 cfu/plate) were for glove prints 5.3% before (n=1562) and 5.0% after (n=1584), settle plates 3.2% before (n=809) and 3.0% after (n=824) and contact plates 2.7% before (n=807) and 1,5% after (n=817).

Conclusion The level of microbiological contamination in a class A hospital pharmacy compounding environment is maintained when cleaning with sterile water and composite fibre cloths, compared to traditional cleaning with chemical disinfectants.

REFERENCES AND/OR ACKNOWLEDGEMENTS

None.

No conflict of interest.