Results The Webmix 'Farmacotecnia' is available at <https://www.symbaloo.com/mix/farmacotecnia>.

At 10 October 2018, the number of added links was 69, distributed in different categories:

- Official websites of scientific institutions related to compounding pharmacy (eight).
- Databases of compounding formulas and drugs (eight).
- Books, journals and other documents (18).
- Catalogues of paediatric formulae and other paediatric resources (10).
- News, bulletins, blogs, Twitter list and forum related to pharmacy compounding (four).
- Providers' websites (seven).
- Consultation documents, medical calculators and other web resources (14).

The webmix is currently used by 95 Symbaloo users.

Conclusion Symbaloo is a dynamic tool that supplies access and organisation of the most useful web resources for the pharmacy-compounding area team, and can also act as a 'filter' for the excessive health information available on the Internet.

By this method, the search and information query becomes more simple, reliable and potentially efficient in terms of time and clicks saving.

REFERENCE AND/OR ACKNOWLEDGEMENTS

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No conflict of interest.

3PC-038 ABSTRACT WITHDRAWN

3PC-039 STABILITY STUDY OF (^{99m}Tc)DOTATOC AND (⁶⁸Ga) DOTATOC IN SYRINGES

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10.1136/ejhp-2019-eahpconf.120

Background Radiopharmaceuticals obtained from radiopharmaceutical kits occur in multi-dose flasks. The packaging of syringes for the preparation of patient unit doses is the responsibility of radiopharmacists, because it is not evaluated during the marketing authorisation. In addition, if there are difficulties in patient care (placement of the catheter, lack of personnel, and so on) or equipment problems, the contact time of radiopharmaceuticals with the syringe increases.

Purpose Determine the impact of prolonged storage of syringes on the quality of DOTATOC radiolabelled with (^{99m}Tc) or (⁶⁸Ga).

Material and methods (^{99m}Tc)DOTATOC and (⁶⁸Ga)DOTATOC were obtained by preparation of Tektrotyd and Somakit-TOC respectively, according to the recommendations of the Summaries of Product Characteristics. Appearance, pH, radiochemical purity, particulate contamination, sterility and endotoxin tests were made according to the current European Pharmacopoeia. Adsorption tests of radiopharmaceuticals consist of determining the residual activity in syringes in polypropylene after storage during 2 hour and 3 hour washing with 8 mL of saline.

Results No drug radiolysis was observed of the radiopharmaceuticals (appearance, pH and radiochemical purity were unchanged). No impurity was observed after repackaging, and particular contamination and microbiological aspects remained in specification of the current European Pharmacopoeia. Concerning drug adsorption, the storage induces a slight increase in drug adsorption from 1.6% (SD 0.16; n=4) to 2.3% (SD 0.29; n=4) for Tektrotyd and 1.65% (SD 0.31; n=4) to 1.65% (SD 0.57; n=4) for Somakit-TOC. These good results may be related to their hydrophilic nature.

The packaging and storage of radiopharmaceuticals could lead to drug alteration through microbiological contamination, drug interaction or adsorption with the packaging and radiolysis. For Somakit-TOC, after this period of time there was 29.3% of the initial activity which could not be compensated

by the increase in image acquisition. For Tektrotyd, image acquisition of the patient was performed during 1.5 hours with gamma camera 1 and 4 hours after radiopharmaceutical injection. Thus, a delay greater than 2 hours will disorganise the patient's care in the nuclear medicine department.

Conclusion These radiopharmaceuticals repackaged in plastic medical devices retained their quality after dispensing and prolonged storage for up to 2 hours.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

3PC-040

HEALTH HAZARDS OF RAW MATERIALS USED IN THE COMPOUNDING OF PHARMACEUTICALS FORMULATIONS

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10.1136/ejhp-2019-eahpconf.121

Background The National Institute for Occupational Safety and Health (NIOSH) has studied only the hazards of marketed drugs, excluding raw materials (RM). For this reason, it is necessary to study the hazards of RM used in the compounding of pharmaceuticals formulations.

Purpose Analyse and establish the hazards of RM used in our pharmacy department. Also, classify the type of health hazards of RM in order to establish protective measures (PM) when handling them.

Material and methods Descriptive study carried out in June to September 2018. All safety data sheets (SDS) of RM (provided by Fagron) used in our hospital were reviewed. Regulation No 1272/2008 of the Classification, Labelling and Packaging of substances and mixtures (CLP) establishes a system for identifying chemical risk. Health hazards are found in the range H300–H373. We subdivided RM with health hazards into four groups depending on toxicity properties: Group 1 (G1): carcinogenic (H350–H351); Group 2 (G2): mutagenic/teratogenic (H340–H341); Group 3 (G3): reproduction/breastfeeding toxicity (H360–H361); and Group 4 (G4): others (ocular, cutaneous, gastrointestinal or respiratory toxicity). Finally, we established PM to prevent hazards when handling RM.

Results Eighty-one RM were analysed. Thirty-three (40.7%) were not classified according to CLP regulations, so they were excluded. Twenty-three RM (28.4%) had no health hazards. Finally, 25 RM (30.9%) were found with any health hazards, of which 13 belonged to any of the groups G1–G3. G1: six RM (7.4%): atenolol, budesonide, diltiazem, spironolactone, phenobarbital and furosemide; G2: one RM (1.2%): phenol; and G3: seven RM (8.6%): boric acid, dexamethasone, disodium tetraborate, triamcinolone acetonide, clobetasol, captopril and phenobarbital. The other 12 RM were in G4. Regarding PM, we established the use of Biological Safety Cabinet Class I to handle G1–G3 RM and the use of personal protective equipment including gloves, protective gown and respiratory protection. It is worth stressing that marketed drugs containing the following active pharmaceutical ingredients analysed atenolol, budesonide, diltiazem, phenobarbital, furosemide, dexamethasone, triamcinolone acetonide, clobetasol and captopril are not included in the NIOSH list.

Conclusion Approximately one-third of RM analysed have any health hazards. It is necessary to review the hazards of RM used in pharmacy departments to prevent workers' occupational exposure. Despite CLP regulation, there are plenty of RM that remain unclassified. Further studies related to hazardous RM are necessary.

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No conflict of interest.

3PC-041

AUTOMATION OF PARENTERAL NUTRITION COMPOUNDING: RESULTS OF GRAVIMETRIC QUALITY CONTROL BEFORE AND AFTER ITS IMPLEMENTATION

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10.1136/ejhp-2019-eahpconf.122

Background The equipment for automated compounding systems (ACS) for parenteral nutritional (PN) admixtures are increasingly being used. Gravimetric control is a quality assurance test used in the preparation of nutritional admixtures. The international guidelines recommend this control to the final product and stated that the variation should be within 5%, ensuring an appropriate accuracy and safety of these parenteral solutions. However, a 3% variation is recommended, mainly for paediatric parenteral nutrition.

Purpose Impact evaluation of the ACS implementation on the quality of compounding parenteral nutrition solutions. Testing the possibility of reducing the acceptable variation limit from 5%–3%.

Material and methods Statistical evaluation of the gravimetric quality control results of PN admixtures before (manual method and semi-automated method) and after ACS implementation.

Three samples of 580 PN admixtures for each specified compounding method were used.

Results Manual method mean deviation: -0.78% , SD: 0.91% , PN admixtures with error $>3\%$: 14; semi-automated method mean deviation: -0.20% , SD: 1.44% , PN admixtures with error $>3\%$: 32; and automated method mean deviation: -0.10% , SD: 0.39% , PN admixtures with error $>3\%$: 0. With the automated system, all the PN admixtures were obtained with an error lower than 3%.

Conclusion The automated compounding method was related to the lower mean for the theoretical weight deviation, as well as lower SD, which indicates a lower error percentage but also a lower dispersion of the results for this method. Thus, the implementation of ACS improved the accuracy of results for the gravimetric control of the PN admixtures, reducing to zero the number of solutions that exceed the acceptable range, thus increasing the safety of the admixtures produced and, consequently, the safety of the patient.

The number of PN admixtures that exceeded the 3% margin, recommended for paediatric nutrition, was zero, so we concluded that we could reduce our test specification to 3%.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.