

methods in hospital pharmacies are limited and the stability analysis of such complex molecules such as antibodies cannot be performed in our setting. We consider SOPs, created by hospital pharmacists, which define the appropriate use necessary for a safe pneumatic tube delivery to prevent quality defects and patient harm.

#### REFERENCES AND/OR ACKNOWLEDGEMENTS

<https://ejhp.bmj.com/content/23/6/343>

<https://link.springer.com/article/10.1007%2Fs12272-014-0521-3>

No conflict of interest.

#### 2SPD-041 DRUG SHORTAGES ANALYSIS FROM AN ITALIAN HOSPITAL PHARMACY PERSPECTIVE

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**Background** The Italian market, as well as other markets, is experiencing an increasing frequency of drug shortages, which have caused difficulties for clinicians, healthcare facilities, patients and regulators. Drug shortages can occur for many reasons including manufacturing and quality problems, regulatory issues and business decisions. They adversely affect patient care by causing the substitution of safe and effective therapies with alternative treatments, compromising or delaying medical procedures or causing medication errors.

**Purpose** The aim of the work is to analyse the drug shortages phenomenon at the centre between January 2016 and June 2018.

**Material and methods** Every drug included in the hospital formulary from January 2016 to June 2018 was considered for the analysis. Drugs involved in shortages were defined as drugs related to delay in supply and included in the official list of the national regulatory agency. For each drug, data extracted were: information about active ingredient, dosage, pharmaceutical form, drug category, reason for shortage, medication shortage status (solved/unresolved), differences in costs and time to purchase the alternative drug from abroad.

**Results** Six drugs included in the hospital formulary were involved in drug shortages during the fixed time (0 in 2016; one in 2017; five in the first semester of 2018) including: Benzylpenicillin benzathine 1,200,000 UI injection vials (2017), Mupirocin 2% ophthalmic ointment, Ampicillin 1 g oral tablets, Clorfenamin 100 mg injection vials, Alprostadil 600 mg oral tablets and Etilefrin 10 mg injection vials (2018). Drug shortages are still unresolved for Mupirocin, Ampicillin, Clorfenamin and Benzylpenicillin benzathine (66%), while they were solved within 90 days for Alprostadil and Etilefrin (33%). The main drug categories involved in shortages were: antibiotics (50%), urological drugs (16.6%), anti-histamines (16.6%) and adrenergic drugs (16.6%). The reason for shortages were manufacturing problems (five) or temporary marketing discontinuation (one). Costs of purchasing alternative drugs increased by 3.5 times compared to ordinary costs, and the purchasing process took twice as long as it would be ordinarily.

**Conclusion** According to results, the drug shortages phenomenon is increasing significantly over time, including relevant drugs. As purchasing alternative drugs from abroad was a long

and expensive process, drug shortages at the centre also increased the burden on healthcare providers and healthcare facility finances.

#### REFERENCES AND/OR ACKNOWLEDGEMENTS

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## Section 3: Production and Compounding

#### 3PC-001 MAGISTRAL FORMULATION OF 10% SUCRALFATE ENEMAS IN PROCTITIS

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**Background** Actinic proctitis is the rectal mucosa's inflammation after treatment with radiotherapy of different pelvic region's tumours. The most frequent clinic includes tenesmus, defective urgency and rectal bleeding.

Several studies have suggested that sucralfate enemas may improve proctitis's symptoms by inducing a macroscopic improvement of the injured area.

**Purpose** To evaluate the effectiveness of sucralfate enemas in proctitis.

**Material and methods** An observational, descriptive and retrospective study was performed in patients who received enemas (October 2014 to April 2016) prepared by the pharmacy service. Variables collected: age, sex, diagnosis of prostatitis, type of cancer, symptoms, duration and dosage of sucralfate treatments in enemas and rate of bleeding episodes.

**Results** Ten patients, diagnosed with proctitis as a side effect of radiotherapy, required the preparation of enemas (70% male; median age 80 (68–82) years). Six of them had prostate adenocarcinoma, three had rectal neoplasia and one endometrial neoplasia. The symptoms presented by proctitis were mainly rectal bleeding, iron deficiency anaemia, tenesmus and diarrhoea. The dosage was one or two enemas per day depending on the severity of the symptoms. The duration of treatment was variable: three patients used enemas only during rectal bleeding episodes (15–30 days), two patients used them for periods between 1 to 3 months, two patients for 4 to 6 months and one patient used them continuously. Two patients currently continue on active treatment. An improvement in symptoms was observed in 100% of patients with a reduction in rectal bleeding episodes. The recurrences occurred more frequently in the group of patients who used the enemas intermittently, needing to restart the treatment in a period of less than 6 months. One of the patients whose treatment duration was 6 months, had to restart after 1 year after the end of treatment. A high degree of satisfaction was observed by both the patients and the professionals who prescribed the treatment.

**Conclusion** The magistral preparation of sucralfate enemas in 10% suspension significantly improves bleeding episodes in these patients, allowing significant symptomatic relief.

#### REFERENCE AND/OR ACKNOWLEDGEMENTS

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No conflict of interest.