manufacturing problems (66.7%), tendering processes (54.8%) and raw material supply problems (52.4%). Serialisation was also mentioned (16%) as a cause of drug shortages.

Conclusion and relevance This is the first time a drug shortage survey focusing on Hungary has been completed. The data and tendencies collected were mainly in accordance with results of previous surveys and global tendencies. However, a new finding is that drugs belonging to ATC group B were affected the most by supply disruptions in Hungary. In addition, this is the first time that serialisation was linked with drug shortages in a survey.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

2SPD-022 DRUG SHORTAGES AND DRUG UNAVAILABILITY: ANALYSIS FROM AN ITALIAN HOSPITAL

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Background and importance Medication shortages and unavailability have become a growing worldwide issue because of their possible clinical impact: reasons can be related to parallel trading (drug unavailability) or lack of production (drug shortages). When they occur, identifying a similar drug may be required or the drug is imported from abroad.

Aim and objectives The aim of the study was to perform an analysis of drug shortages (DS) and drug unavailability (DU) occurring at the centre from January 2018 to June 2019.

Material and methods The analysis included every DS and DU for every drug included in the formulary from January 2018 to June 2019. Any drug request received by the pharmacy during this time was analysed to determine DU and DS, and the drugs involved. Classification of DU or DS was performed through consultation on the DS list published by the Italian Medicines Agency. The analysis was performed for three time points: first semester 2018 (S1), second semester 2018 (S2) and first semester 2019 (S3). Also, an analysis of the medication group involved over time was performed.

Results The analysis detected DU for 19 drugs included in the formulary: S1 (2: intravenous ampicillin 1 g, ceftazidime 1 g), S2 (5: intravenous midazolam 5 mg, oxacillin 1 g, iron gluconate 62.5 mg, methylprednisolone 40 mg, glutathione 600 mg), S3 (12: intravenous piperacillin/tazobactam 2.25 g and 4.5 g, lysine acetylsalicylate 500 mg, hydrocortisone 100 mg, suxamethonium 5 mg, ceftazidime 1 g and 2 g, cefepime 2 g, glutathione 600 mg, methylprednisolone 40 mg, heparin 5000 units, atracurium 50 mg). Ten cases of DS requiring importation were found: S1 (4: mupirocin 2% nasal ointment, intravenous chlorphenamine 100 mg, alprostadil 20 µg, etilefrine 10 mg), S2 (3: intravenous diazepam 10 mg, lorazepam 4 mg, fructose 5 g), S3 (4: oral labetalol 5 mg, danazol 200 mg, sodium nitroprusside 50 mg, intravenous fructose 5 g). Medications groups involved in DU and DS were: antibiotics (31%), non-steroidal anti-inflammatory drugs (20.7%), benzodiazepine (10.4%), antihypertensive (10.4%), dietetics (10.4%), anaesthetics (6.9%), urological drugs (3.4%), antihistamines (3.4%) and adrenergic drugs (3.4%). The rate of DS did not change over time, while DU increased from S1 to S2 (+150%) and from S2 to S3 (+150%).

Conclusion and relevance While the number of DS requiring drug importation remained constant, DU strongly increased over time, leading clinicians to identify similar treatments. The analysis did not show any prevailing medication group over time.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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2SPD-023 HOW MUCH DOES FALSIFIED MEDICINES DIRECTIVE ACTUALLY COSTS? DETAILED COST EVALUATION OF SERIALISATION IN A REPRESENTATIVE SAMPLE OF HUNGARIAN HOSPITAL PHARMACIES

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Background and importance The aim of the falsified medicines directive (FMD 2011/62/EU) is to prevent the entry of illegitimate medicines into the legal supply chain. Despite its proposed benefits, the indepth evaluation of cost implications for hospital pharmacies is still lacking.

Aim and objectives Our study evaluated the current practice of serialisation and the financial impact of the FMD in a representative sample of Hungarian hospitals.

Material and methods Based on literature review and interviews with hospital pharmacy experts, a 41 item questionnaire was developed to evaluate the implementation process leading up to February 2019, and the stabilisation period that followed. Questions regarding institutional data, human resource requirements, infrastructural and IT developments, and authentication procedures were sent out to all (n=96) Hungarian hospital pharmacies in September 2019.

Results A high response rate (n=43, 44.8%) allowed representative data evaluation of Hungarian hospitals. By the initial launch date of FMD, the average increase in pharmacist workload was 0.92 (±0.98) hours/day, and it was estimated to increase further by 1.13 (±1.65), equalling 0.25 pharmacist full time equivalents (FTE)/institution. Additionally, FMD seemed to increase technician workload significantly compared with pharmacists (p<0.001), as by February, 2.25 (±1.42) hours, and in the long term a further 4.01 (±3.88) daily working hour increase was reported (equalling approximately 0.75 technician FTE/institution). Average non-human resource (eg, infrastructural, IT, etc) costs related to the implementation of the directive in February 2019 were 1868€/institution with a high variation (±3331€) due to inter-institutional differences but significantly lower costs are expected in the long term in the stabilisation phase (421±785€). FMD has affected the hospital supply chain in numerous ways, as 76.7% of respondents faced drug shortages, 58.1% reported suspected increases in drug costs of serialised medications and 53.5% noticed an increase in packaging size affecting storage capacities.

Conclusion and relevance Our results illustrated that the FMD had notable short and long term impact on hospital pharmacies. Our aim is to adapt this methodology to other EU countries and identify good practices in serialisation at an international level.