

MEDICINE SHORTAGES-RISKS AND SOLUTIONS

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Medicine shortages result in great risk for the continuity of patient care especially for antimicrobial treatment, potentially enhancing resistance rates and having a higher economic impact (1-2). This study aims to identify, describe, assess, and assign risk priority levels to potential failures following substitution of antimicrobial treatment due to shortages among European hospitals. Health-care failure mode and effect analysis was applied to six hospitals in Austria, Belgium, Croatia, Greece, Spain, and Serbia in 2018 and 2019. Multidisciplinary teams identified processes, failure modes, causes, and corrective actions related to antibiotic substitution following medicine shortages. Severity, probability, and hazard scores (HSS) of failure modes/causes were analyzed using IBM SPSS Statistics®. Through HFMEA, 74 failure modes were identified, with 53 of these scoring 8 or above on the basis of assigned severity and probability for a failure due to data scarcity on availability of antibiotics and non-supportive IT systems. Severity of failure modes differed before and after corrective actions in hospitals in Croatia, Greece and Serbia ($p < 0.005$). Their probability differed in all study hospitals ($p < 0.005$) when compared before and after implemented corrective actions. The highest number of failure-mode causes was detected in a hospital in Croatia (46) and the lowest in a hospital in Spain (16). Proposed corrective actions can address failure modes and lower HSs; therein, all teams proposed the following: structuring communication among stakeholders, introducing electronic prescribing, and increasing effectiveness of the ward stock assessment. These proposed actions led to HS reductions up to 83%.

References

1. Miljkovic N, Gibbons N, Batista A, Fitzpatrick RW, Underhill J, Horak P. Results of EAHP's 2018 Survey on Medicines Shortages. *Eur J Hosp Pharm.* 2019; 26:60–5.
2. Fox ER, McLaughlin MM. ASHP guidelines on managing drug product shortages. *Am J Health Syst Pharm.* 2018; 75:1742–50.

NESTAŠICE LEKOVA-RIZICI I REŠENJA

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Nestašice lekova predstavljaju značajan rizik po uspostavljanje kontinuiteta terapije pacijenta, uključujući i terapiju antibioticima, pospešujući antimikrobnu rezistenciju i povećanje finansijskih izdataka tokom njihovog prevazilaženja (1-2). Ovo istraživanje za cilj ima identifikaciju, procenu i gradaciju rizika, koji dovode do grešaka tokom antimikrobne supstitucije usled nestašica u evropskim bolnicama. Zdravstvena analiza vrste i ishoda grešaka je sprovedena u šest bolnica u Austriji, Belgiji, Grčkoj, Hrvatskoj, Srbiji i Španiji u toku 2018. i 2019. godine. Multidisciplinarni timovi su učestvovali u određivanju procesa, tipa i uzroka greške u procesu antibiotske supstitucije usled nestašice leka, kao i predlogu korektivnih mera za prevazilaženja grešaka. Ozbiljnost, verovatnoća i hazard skor (HS) za svaku grešku/uzrok je analiziran putem IBM SPSS Statistics®. Analizom je identifikovano 74 vrste grešaka, od kojih 53 sa HS iznad 8 na osnovu ozbiljnosti i verovatnoće greške, usled nedostatka podataka o dostupnim antibioticima i neodgovarajućoj IT podršci. Ozbiljnost grešaka se razlikovala pre i nakon primene korektivnih mera u bolnicama u Grčkoj, Hrvatskoj i Srbiji ($p < 0.005$). Verovatnoća grešaka se razlikovala u svim bolnicama ($p < 0.005$) pre i nakon primene korektivnih mera za implementaciju. Najveći broj grešaka je identifikovan u bolnici u Hrvatskoj (46), a najniži u bolnici u Španiji (16). Predložene korektivne mere su uticale na smanjenje vrednosti HS i pojavu grešaka. Uvođenje strukturirane razmene informacije o nestašicama antibiotika i sprovođenju terapijske supstitucije, te uvođenje elektronskog propisivanja lekova, kao i kontinuirana provera zaliha lekova na bolničkim odeljenjima dovode do smanjenja HS i do 83%.

Literatura

1. Miljkovic N, Gibbons N, Batista A, Fitzpatrick RW, Underhill J, Horak P. Results of EAHP's 2018 Survey on Medicines Shortages. *Eur J Hosp Pharm.* 2019; 26:60–5.
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