Antimicrobial stewardship programs in adult intensive care units in Latin America: Implementation, assessments, and impact on outcomes

Programas de administración de antimicrobianos en unidades de cuidados intensivos para adultos en América Latina: implementación, evaluaciones e impacto en los resultados

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REVISTA: Infect Control Hosp Epidemiol 2022 Feb;43(2):181-190. doi: 10.1017/ice.2021.80. Epub 2021 Apr 8.

TIPO DE CÁNCER: Microbiología

ABSTRACTO: Objective: To assess the impact of antimicrobial stewardship programs (ASPs) in adult medical-surgical intensive care units (MS-ICUs) in Latin America. Design: Quasi-experimental prospective with continuous time series. Setting: The study included 77 MS-ICUs in 9 Latin American countries. Patients: Adult patients admitted to an MS-ICU for at least 24 hours were included in the study. Methods: This multicenter study was conducted over 12 months. To evaluate the ASPs, representatives from all MS-ICUs performed a self-assessment survey (0-100 scale) at the beginning and end of the study. The impact of each ASP was evaluated monthly using the following measures: antimicrobial consumption, appropriateness of antimicrobial treatments, crude mortality, and multidrug-resistant microorganisms in healthcare-associated infections (MDRO-HAIs). Using final stewardship program quality self-assessment scores, MS-ICUs were stratified and compared among 3 groups: ≤25th percentile, >25th to <75th percentile, and ≥75th percentile. Results: In total, 77 MS-ICU from 9 Latin American countries completed the study. Twenty MS-ICUs reached at least the 75th percentile at the end of the study in comparison with the same number who remain within the 25th percentile (score, 76.1 ± 7.5 vs 28.0 ± 7.3; P < .0001). Several indicators performed better in the MS-ICUs in the 75th versus 25th percentiles: antimicrobial consumption (143.4 vs 159.4 DDD per 100 patient days; P < .0001), adherence to clinical guidelines (92.5% vs 59.3%; P < .0001), validation of prescription by pharmacist (72.0% vs 58.0%; P < .0001), crude mortality (15.9% vs 17.7%; P < .0001), and MDRO-HAIs (9.45 vs 10.96 cases per 1,000 patient days; P = .004). Conclusion: MS-ICUs with more comprehensive ASPs showed significant improvement in antimicrobial utilization.

Natural Occurrence of Mycotoxin-Producing Fusaria in Market-Bought Peruvian Cereals: A Food Safety Threat for Andean Populations

Presencia natural de Fusaria productora de micotoxinas en cereales peruanos comprados en el mercado: una amenaza para la seguridad alimentaria de las poblaciones andinas

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REVISTA: Toxins (Basel) 2021 Feb 23;13(2):172. doi: 10.3390/toxins13020172.

TIPO DE CANCER: Microbiología

ABSTRACTO: Consumption of cereals contaminated by mycotoxins poses health risks. For instance, Fumonisins B, mainly produced by Fusarium verticillioides and Fusariumproliferatum, and the type B trichothecene deoxynivalenol, typically produced by Fusarium graminearum, are highly prevalent on cereal grains that are staples of many cultural diets and known to represent a toxic risk hazard. In Peru, corn and other cereals are frequently consumed on a daily basis under various forms, the majority of food grains being sold through traditional markets for direct consumption. Here, we surveyed mycotoxin contents of market-bought grain samples in order to assess the threat these mycotoxins might represent to Peruvian population, with a focus on corn. We found that nearly one sample of Peruvian corn out of six was contaminated with very high levels of Fumonisins, levels mostly ascribed to the presence of F. verticillioides. Extensive profiling of Peruvian corn kernels for fungal contaminants could provide elements to refine the potential risk associated with Fusarium toxins and help define adapted food safety standar