عنوان مقاله:

Prevalence of Extended-Spectrum Beta-Lactamase in Gram Negative Bacteria Isolated from Kermanshah Medical Centers: A Systematic Review and Meta-Analysis

محل انتشار:

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نویسندگان:

Mosayeb Rostamian - *Infectious Diseases Research Center, Health Institute, Kermanshah University of Medical Sciences, Kermanshah, Iran*

Sepide Kadivarian - *Department of Microbiology, School of Medicine, Kermanshah University of Medical Sciences, Kermanshah, Iran*

Sara Kooti - *Department of Microbiology, School of Medicine, Kermanshah University of Medical Sciences, Kermanshah, Iran*

Shirin Dashtbin - *Department of Microbiology, School of Medicine, Iran University of Medical Sciences, Tehran, Iran*

Ramin Abiri - *Fertility and Infertility Research Center, Research Institute for Health Technology, Kermanshah University of Medical Sciences, Kermanshah, Iran*

Amirhooshang Alvandi - *Medical Technology Research Center, Research Institute for Health Technology, Kermanshah University of Medical Sciences, Kermanshah, Iran*

خلاصه مقاله:

Background and Aim: Nosocomial infections caused by gram-negative bacteria are among the most important health-threatening challenges of the current century, particularly following the emergence and spreading of antibiotic-resistance strains. Extended-spectrum beta-lactamase (ESBL), one of the most important antibiotic resistance mechanisms, is spreading worldwide. Surveillance and gathering data on the prevalence of antibiotic resistance and their associated encoding genes could assist in selecting treatment strategies and policies. This systematic review and meta-analysis was designed to assess the prevalence of ESBL-positive bacteria and their resistance genes in medical centers of Kermanshah city, west of Iran. Materials and Methods: All studies published as original articles were retrieved by searching in EMBASE, Scopus, PubMed/Medline, Google Scholar, and Persian databases of SID and Magiran, using appropriate keywords All published studies in the field were included without time restriction until ۳۰-Mar-۲۰۲۲. Comprehensive Meta-Analysis software was used to analyze the data. Results: The prevalence of ESBL-positive and multidrug resistance (MDR) bacteria in Kermanshah medical centers were ۳۴.۸% and ۵۶.۱%, respectively. The highest and lowest prevalence of ESBL-positive bacteria was observed for Enterobacter cloacae (۵۹.۱۴%) and Pseudomonas aeruginosa (۴.۵۵%), respectively. The highest and lowest prevalence of the resistance genes were observed for blaOXA-۵۱ (۹۹.۳%) and blaKPC (۰.۶%), respectively. The highest resistance was estimated to mezlocillin antibiotic (۹۲.۲%). Conclusion: This study showed that the prevalence of ESBL-positive and MDR bacteria is high in Kermanshah medical centers, and it provides significant information to health policymakers to

implement appropriate strategies to reduce the prevalence of resistant bacteria.

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