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Risk factors for Multidrug-resistant Gram-negative bacteria in nosocomial infections: a meta-analysis

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Deng, J[1]; Zhao, K[2]; Zuo, Q[3]; Wang, X[4]; Adila, M[5]; Niu, K[6]; Tian, P[7].

Corresponding author:
Jinglan Deng

2244318187@qq.com

Author Affiliation:
Xinjiang medical university.

ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 10 November 2023 and was last updated on 10 November 2023.

INTRODUCTION

Review question / Objective This study systematically analyses the influencing factors of MDR-GNB hospital infections to provide a theoretical basis for delaying and preventing bacterial drug resistance, and further developing hospital infection prevention and control strategies.The research type is a case control study. The case group of the study subjects was patients with MDR-GNB hospital infection, while the control group was patients without MDR-GNB hospital infection. The research content is to explore the risk factors of MDR-GNB hospital infection in hospitalized patients. The original data is complete, providing OR values and 95% CI. The language of the literature is Chinese or English.

Condition being studied Retrieve domestic and foreign publicly published literature from Cochrane Library, PubMed, Web of Science, Ovid, Wanfang Database (WANFANG DATA), China National Knowledge Infrastructure (CNKI), China Biomedical Literature Database (CBM), and VIP Chinese Science and Technology Journal Database (VIP) from the establishment of the database to September 1, 2023.

METHODS

Participant or population Multirug-resistant Gram Negative Bacilli,MDR-GNB refers to leather that exhibits resistance to commonly used Class 3 or more antimicrobial drugs that are usually sensitiveBlue negative bacteria.Our research subjects are MDR-GNB hospital infected patients.

Intervention MDR-GNB Hospital Infection Patients.

Comparator Non MDR-GNB hospital infected patients.

Study designs to be included Case Control Study.

Eligibility criteria Inclusion criteria: (1) Literature was published from the time of the study to 1 September 2023 (2) Study type: case-control study. (3) Study subjects: the case group was patients with MDR-GNB hospital-acquired infections, and the control group was patients without MDR-GNB hospital-acquired infections. (4) Study content: to investigate the risk factors of MDR-GNB hospital infection in hospitalised patients. (5) The original data were complete, with ORs and 95% CIs provided.(6) The language of the literature was Chinese or English.Exclusion criteria: (1) Duplicate publication and duplicate examination of the literature in the same study sample. (2) Incomplete or missing study data. (3) Unavailability of raw data.

Information sources Retrieve domestic and foreign publicly published literature from Cochrane Library, PubMed, Web of Science, Ovid, Wanfang Database (WANFANG DATA), China National Knowledge Infrastructure (CNKI), China Biomedical Literature Database (CBM), and VIP Chinese Science and Technology Journal Database (VIP) from the establishment of the database to September 1, 2023.

Main outcome(s) Diabetes, kidney disease, chronic obstructive pulmonary disease, cardiovascular disease, admission to ICU, admission time in ICU, invasive operation, use of central venous catheter, urinary catheter, mechanical ventilation, triple antibiotic application, use of quinolones, use of antibiotics.

Quality assessment / Risk of bias analysis Use the Newcastle Ottawa Scale (NOS) recommended by the Cochrane Collaborative Network to evaluate the quality of the final included literature.

Strategy of data synthesis The research literature was statistically analyzed using RevMan5.3 software. The effect indicators of the binary outcome variables were expressed using Odd Ratio (OR) and 95% Confidence Interval (CI). The Mantel Haenszel method was used to merge the effect quantities. The heterogeneity test was conducted using Q-test and I2 index analysis. When P>0.1 and I2<50%, the heterogeneity between studies was considered acceptable. A fixed effects model was used to merge the effect quantities, When P50%, it is considered that there is heterogeneity between studies. A random effects model is used to merge the effects, and the statistical analysis results of Meta analysis are used to draw a forest map.

Subgroup analysis None.

Sensitivity analysis State software conducts sensitivity analysis on research literature, reflecting the sensitivity of the article by examining the changes in the magnitude of the effect after deleting one of the articles.

Country(ies) involved China.

Keywords multidrug-resistant Gram negative bacteria; Hospital infection; Influencing factors; Meta analysis.

Contributions of each author

Author 1 - Jinglan Deng - Author 1 drafted the manuscript.
Email: 2244318187@qq.com
Author 2 - Kexin Zhao - Author 2 collected data.
Email: 1030659417@qq.com
Author 3 - Qiuxia Zuo - Author 3 has compiled the data.
Email: 1109431009@qq.com
Author 4 - Xiao Wang - Author 4 collected data.
Email: 1470020326@qq.com
Author 5 - Maimaiti Adila - Author 5 has compiled the data.
Email: 1140446516@qq.com
Author 6 - Ke Niu - Author 6 has compiled the data.
Email: 2268720330@qq.com
Author 7 - Ping Tian - Author 7 designed the study.
Email: 1027619491@qq.com