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Antimicrobial Stewardship and the Incidence of Hospital Acquired Infections

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Purpose: The rise of antimicrobial resistance in all settings is both a patient care and a financial concern. Antimicrobial stewardship methods include prescription restrictions, education, and general infection control measures, have been shown to reduce the spread of antimicrobial resistance. While antimicrobial stewardship has successfully been implemented in different settings to reduce the spread of antimicrobial resistance, the effect of antimicrobial stewardship programs on health care acquired infections is less well known.
Methods: This paper systematically identifies, reviews, evaluates, and synthesizes evidence related to the effect of antimicrobial stewardship programs on the incidence of hospital acquired infections in the hospitalized patient populations. A literature review was collected to answer the following question - in hospitalized patients, what is the effect of the implementation of an antimicrobial stewardship program, compared to not using an antimicrobial stewardship program, on the incidence of hospital acquired infections during hospitalization? The LEGEND tool was used to critically analyze and grade individual research studies and the body of evidence as a whole.
Results: The evidence collected found that antimicrobial stewardship programs are an effective means of reducing hospital acquired infections in the inpatient population. While the type of antimicrobial stewardship program and the type of hospital acquired infection varied in the literature, all the evidence gathered showed a significant reduction in hospital acquired infection rates after the implementation of an antimicrobial stewardship program. Restrictive antimicrobial stewardship programs showed a greater reduction in hospital acquired infection rates than persuasive antimicrobial stewardship programs alone.
Conclusion: Following from this review of evidence the implementation of a restrictive antimicrobial stewardship program is recommended for all inpatient populations in order to reduce the spread of antimicrobial resistance and reduce the incidence of hospital acquired infections. Based on the literature available, a plan for the implementation of a restrictive antimicrobial stewardship program on the unit level is outlined. In sum, the use of antimicrobial stewardship programs should be standardized as means of reducing the spread of antimicrobial resistance and the incidence of hospital acquired infections.

Title:
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Keywords:
Antimicrobial stewardship, Hospital acquired infections and Quality improvement.

Abstract Summary:

An evidence-based review of the effect of antimicrobial stewardship on the incidence of hospital acquired infections. After the systematic collection, analysis, evaluation and synthesis of the evidence on antimicrobial stewardship programs, the implementation of a restrictive antimicrobial stewardship program is recommended to decrease the incidence of hospital acquired infections.

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Author Summary: Lindsey Allcock is a current Georgetown University second degree MS-CNL candidate. She previously gradated from Georgetown University with a BS in physics. She then worked as a teacher before changing careers to pursue a masters degree in nursing.