A multimodality approach to decreasing ICU infections by hydrogen peroxide, silver cations and compartmentalization and applying Acinetobacter as infection marker

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Introduction:
Nosocomial infections at the intensive care unit (ICU) represent a substantial health threat. ICU infections are mainly attributed to the extended hospital delay which results in high morbidities and mortalities.

Methods:
A cross sectional study was conducted at the Intensive Care Unit, Aseer Central Hospital, Saudi Arabia over 13 months period (2014-2015).
The intervention program included the application of mist of hydrogen peroxide and silver cations, physical separation and compartmentalization of the intensive care unit. The GLOSAIR™ 400 System was used to deliver a mist of hydrogen peroxide and silver cations. Hydrogen peroxide is an oxidizing agent, which kills microorganisms.

Results:
A total of 103 strains of Acinetobacter species were identified from the patients over the 13 months period. The mean infection rates decreased from 14.3 in the first three months of the program to 4 in the last three months after continuous

Conclusion:
The program using the three procedures offered a significant decrease in infections at the ICU as measured by Acinetobacter count, which is one of the most hazardous nosocomial pathogens.

References:

Image 1:

A linear regression of Acinetobacter species recovered from the intensive care unit, Aseer Central Hospital, Saudi Arabia: A one year trend analysis (y = - 0.7912x +
13.615; \( R^2 = 0.44 \).