

Are contact precautions for extended-spectrum β -lactamase-producing Gram-negative rods warranted in areas of high endemicity?



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Introduction

Controlling the spread of Extended Spectrum Beta-Lactamase producing Gram Negative Rods (ESBL-GNR) requires a combination of antibiotic stewardship, along with stringent standard and contact precautions.

However implementation of effective contact precautions is hampered in areas of high endemicity due to a large influx of patients leading to a substantial drain on resources and eventual "sign fatigue".

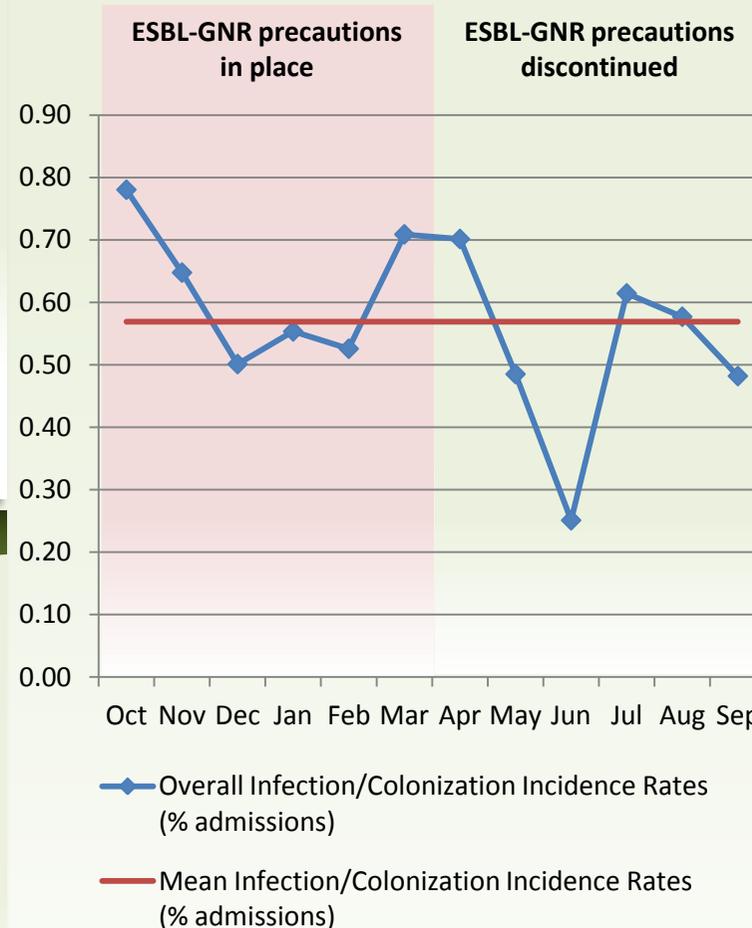
We therefore assessed the effect of discontinuing contact precautions for ESBL-GNRs on the overall rates of multi-drug resistant organism (MDRO) transmission (including ESBL-GNRs).

Materials and Methods

We performed an interrupted time series study at a 593-bedded tertiary care hospital in Karachi, Pakistan.

Starting April 2013, patients colonized/infected with ESBL-GNRs were not placed in contact precautions (contact precautions for other MDROs continued). Effects were measured 6 months before and after implementation of the policy using CDC's measures of proxy infection, monthly overall Infection/Colonization Incidence Rates (percentage of patients who acquire an MDRO three days after admission to a unit) and the average number of patients daily requiring transmission based precautions.

During this period, no change in the antimicrobial stewardship program was made nor was any institute-wide hand hygiene initiatives launched.



References

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Results

After discontinuing ESBL-GNR isolation, the average daily number of patient's requiring any form of transmission based precautions decreased from an average of 42 patients per day to 24 patients per day.

A total of 1634 patients were identified to be colonized/infected with ESBL-GNRs (773 while isolation precautions were in place and 861 after discontinuing precautions).

After discontinuing ESBL-GNR isolation the number of patients acquiring an ESBL from the hospital remained unchanged from 219 (28.3% of ESBLs) to 207 (24.0% of ESBLs).

The average monthly Infection/Colonization Incidence Rates for ESBLs, while isolation was in place was 0.62% (95% CI \pm 1.54), which decreased slightly to 0.52% (95% CI \pm 2.3) after isolation was stopped.

The ICIRs of the other MDROs remained unchanged.

Conclusions

The transmission rate of ESBL-GNR remained unchanged despite discontinuation of contact precautions.

This may be reflective of the relatively poor transmissibility of ESBL E.coli (which forms the bulk of ESBL-GNRs at our institution).

As compliance to the components of contact precautions were not assessed during this period, the lack of increase may also be due to pre-existing suboptimal isolation.

However, hospital in areas endemic to ESBL-GNRs and with limited resources, should assess the need for contact precautions for these organisms.