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Permalink
https://escholarship.org/uc/item/3qw710j8

Journal
Open Forum Infectious Diseases, 3(suppl_1)

ISSN
2328-8957

Authors
Miller, Loren
Mckinnell, James A
Singh, Raveena
et al.

Publication Date
2016-12-01

DOI
10.1093/ofid/ofw172.1089

Peer reviewed
1386. Reduction of MDRO Colonization in Nursing Home Residents with Routine Use of Chlorhexidine Bathing and Nasal Iodophor (Project PROTECT)

Loren Miller, MD, MPH1; James a. Mckinnell, MD2; Raveena Singh, MA3; Ken Kleinman, ScD3; Adrijana Gombosev, MS3; Tabitha Dutciuc, MPH3; Kaye Evans, BA4; Thomas Tjoa, MPH5; Michael Bolaris, MD5; Kyle Ramsay, BS6; Diane Kim, BS7; Marlene Estvez, BA8; Ellena Peterson, PhD9; Susan S. Huang, MD, MPH, FIDSA, FSHEA3; 1Infectious Disease Clinical Outcomes Research (ID-CORE), LA Biomed at Harbor-UCLA Medical Center, Torrance, CA; 2Infectious Disease Clinical Outcomes Research Unit, Division of Pathology and Laboratory Medicine, University of California Irvine School of Medicine, Orange, CA; 3Division of Infectious Diseases and Health Policy Research Institute, University of California Irvine School of Medicine, Irvine, CA; 4Department of Population Medicine, Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston, MA; 5Department of Pathology and Laboratory Medicine, University of California Irvine School of Medicine, Orange, CA; 6Infectious Disease Clinical Outcomes Research Unit, Division of Infectious Disease, Los Angeles Biomedical Research Institute at Harbor–University of California Los Angeles Medical Center, Torrance, CA

Background. Nursing homes have a high prevalence of residents colonized with multidrug-resistant organisms (MDROs). These patients are at high risk for subsequent infections with these pathogens. Recent trials have demonstrated that decolonizing ICU patients reduces infections. However, the impact of decolonization on other high-risk populations is poorly understood.

Methods. From June 2015 to March 2016, we performed a 9-month pilot (3 month baseline, 3 month phase-in, 3 month intervention) project in 3 nursing homes to study the impact of routine chlorhexidine (CHG) bathing/showering combined with use of nasal iodophor x 5 days on admission followed by every other week. Our primary outcome was body colonization with 4 MDROs, methicillin-resistant S. aureus (MRSA), vancomycin-resistant Enterococcus (VRE), extended spectrum beta-lactamase + (ESBL), and carbapenem-resistant Enterobacteriaceae (CRE). We performed 6 sweeps of a random sample of 50 residents in both baseline and intervention periods, survevying skin (for MDROs) and nares (for MRSA). We also swabbed a standardized set of 5 commonly touched fomites in rooms of MDRO+ residents for MDRO environmental contamination.

Results. During the baseline period, 272/605 (45%) of residents were colonized with MDROs. After intervention implementation, there was significant (P < 0.05) decrease in prevalence of MRSA (29% to 19%), VRE (12% to 4%), and ESBL (15% to 9%). CRE prevalence was rare (1%). Presence of any MDRO was reduced from 45% to 29% (P < 0.001). In a multivariate model, clearance of MDROs was strongly associated with the intervention period (OR 0.41 [95% CI 0.36–0.53]) when adjusting for clinical characteristics (table). Residents tolerated the products well and staff acceptance was high. Contamination on >1 fomite in rooms of MDRO carriers was 88% before the intervention and 82% afterwards.

Conclusion. Routine use of CHG and nasal iodophor was pragmatically adopted into routine care within 3 months and associated with a marked reduction in MDRO prevalence among nursing home residents.

Factors Associated with MDRO Colonization During Study, OR [95% CI]

<table>
<thead>
<tr>
<th>Variable</th>
<th>OR (95% CI)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention Period</td>
<td>0.41 [0.37–0.55]</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Bed Bound Status</td>
<td>1.64 [1.23–2.20]</td>
<td>0.001</td>
</tr>
<tr>
<td>Incontinence</td>
<td>1.37 [1.09–1.71]</td>
<td>0.007</td>
</tr>
</tbody>
</table>

Foley Present
191 [1.38–2.64]

Disclosures. L. Miller, Sage Products: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product Clorox: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product J. A. Mckinnell, Theravance Pharmaceuticals: Consultant and Speaker's Bureau, Research support and Speaker honorarium R. Singh, Sage Products: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product A. 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