

Additional precautions by healthcare workers did not prevent spread of antibiotic-resistant bacteria

April 23 2018

Contact precautions, used in addition to the standard precautions, the basic level of infection control applied to all patients, did not limit or prevent the spread of drug-resistant bacteria in non-intensive care unit (ICU) hospital wards, according to research presented at the 28th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID).

Hospital wards may play host to bacteria that produce extended-spectrum beta-lactamases (ESBL), an enzyme that renders commonly used older antibiotic drugs like penicillin and cephalosporins ineffective. The outcome for patients infected with ESBL-producing Enterobacteriaceae (ESBL-E), such as *Escherichia coli* (*E. coli*) and *Klebsiella pneumonia* (*K. pneumonia*) can be deadly.

Presenting author Dr. Friederike Maechler from the Institut für Hygiene und Umweltmedizin at the Charité in Berlin examined rates of colonisations with ESBL-producing Enterobacteriaceae to determine whether additional precautions had any effect on the incidence of hospital-acquired colonisations. Maechler and her team screened patients and monitored precaution protocols for both contact precautions and standard precautions as well as hospital wards' hand hygiene protocols.

Between January 2014 and August 2016, 38,345 patients were admitted to one of the 20 participating wards and remained in the hospital for at

least two days. With 84% of patients screened at least once, ESBL-E prevalence was almost equal between precaution protocols. Prevalence of the [drug-resistant bacteria](#) was 9.7% for contact precautions and 9.6% for standard precautions upon admission.

"Even with an extensive screening protocol to identify all ESBL-E carriers, our data show no benefit for contact precautions in non-ICUs in preventing the spread of ESBL-E," Maechler said. "Multivariate analysis included screening compliance, admission prevalence and length of stay, and showed no protective effect for contact precautions over standard precautions."

Maechler's team monitored patients in 20 medical and surgical wards in four European countries. Patients admitted to non-ICU wards were screened for ESBL-E and monitored weekly after that, as well as when they were discharged. The wards were randomised and assigned precaution protocols, either standard precautions or contact precautions. After a wash-out period of one month, the wards switched strategies.

More than 11,000 patients who stayed in the hospital for a week or more were screened at least twice. Compliance for the first and second screenings was 75% and showed the same rates of acquired ESBL-E at 4.6 per 1,000 patient days.

Hospital staff hand hygiene compliance was 62% in the contact precautions arm of the study and 61% in the standard precautions arm. Adherence to the precautions protocols was 85% and 84% respectively.

Contact precautions are indicated when caring for patients known or suspected to have a serious illness, such as a gastrointestinal (diarrheal) illness, which is easily transmitted by direct patient contact or by indirect contact with items in the patient's environment.

Illnesses requiring contact precautions may include stool incontinence caused by norovirus, rotavirus, or *Clostridium difficile*, draining wounds, uncontrolled secretions, pressure ulcers, presence of generalized rash, or presence of ostomy tubes and/or bags draining body fluids. Contact precautions may for example include wearing gloves or a fluid-resistant protective gown when touching a [patients'](#) immediate environment and belongings.

More information: Abstract no: O1130, Contact precautions versus standard precautions for carriers of ESBL-producing Enterobacteriaceae (ESBL-E) in non-ICUs with an active surveillance screening - a cluster-randomized cross-over trial; session Late breaker: Brand new infection control findings, 11:30 - 12:30, Monday, 23 April 2018, Hall D
Presented at ECCMID 2018 in Madrid, Spain

Provided by European Society of Clinical Microbiology and Infectious Diseases (ESCMID)

Citation: Additional precautions by healthcare workers did not prevent spread of antibiotic-resistant bacteria (2018, April 23) retrieved 19 November 2023 from <https://medicalxpress.com/news/2018-04-additional-precautions-healthcare-workers-antibiotic-resistant.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.