

Abstract

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From very close – hygiene along the patient journey

The number of the infections acquired in German hospitals is estimated at 400 000 to 600 000. 30 000 to 35 000 of these are caused by multidrug-resistant pathogens. The number of deaths due to infections with multidrug-resistant pathogens can only be estimated. According to the Robert Koch-Institute the number is between 1 000 and 4 000 per year.

Although most nosocomial infections are caused by pathogens that respond to antibiotic therapy, the rate of resistant bacteria increases constantly. The development of new antibiotics, the rational use of antibiotics in human and veterinary medicine and the consistent implementation of hygiene measures are the main pillars of a strategy against antibiotic resistances.

Particularly hygiene measures are a direct and relevant contribution to prevent infections. An antibiotic requires an average of 13.5 years for market maturity, hygiene measures that have a high level of evidence for infection prevention can have an immediate contribution to patient protection. Hand disinfection has a key role here. As individual measure hand hygiene can prevent up to 40 per cent of nosocomial infections. Recent studies show that hand hygiene combined with other hygiene measures can even reduce between 50 per cent and 90 per cent of the nosocomial infections, depending on the type of infection.

A great potential for patient protection that yet has been used much too little. The average hand disinfection compliance rate is between 41 per cent and 55 per cent only, with a wide range of variation. There is only a limited amount of data on the degree of implementation of other hygiene measures important for patient protection, such as the sterile cover or skin antiseptics. A study on placing a peripheral vascular catheter, for example, observed that before the intervention, no sterile cover is used for the puncture site in around 75 per cent of the cases. This can cause pathogens to enter the bloodstream and, in the worst case, trigger a bloodstream infection. A holistic approach to hygiene measures, not only to hand hygiene, but also to other measures relevant to infection hence offers a high potential of prevention.

Based on these findings, the BODE SCIENCE CENTER – PAUL HARTMANN AG's centre of excellence – developed a new hygiene strategy: based on an intervention study that the BODE SCIENCE CENTER conducted at the University Medical Center Hamburg-Eppendorf (UKE), new standardised operating procedures (SOPs) for nursing and medical activities have been defined, considering all steps that involve the risk of infection.

The SOPs focus on the nosocomial infections most common in Germany: Wwith a share of 24.3 per cent, postoperative surgical site infection is at the top, followed by urinary tract infection (23.2



per cent), infection of the lower respiratory tract (21.7 per cent) and bloodstream infection (primary sepsis) with 5.7 per cent.

When developing the SOPs, all critical situations and nursing measures all along the patient journey in the hospital – from admission to discharge – were identified. Being based on evidence-based recommendations, the SOPs developed for placing peripheral venous accesses and urinary catheters, for postoperative dressing change and managing ventilated patients can reduce the share of hygiene mistakes and thus contribute to the reduction of the most common nosocomial infections, including those caused by multidrug-resistant pathogens.

For a highest possible degree of implementation of the new SOPs, all working steps were brought into a logical and easy-to-understand order and were then tested in practice.

Currently, the new SOPs are tested in differing pilot clinics in Germany, accompanied by a multimodal intervention with checklists, e-learning tools and Apps.

Source

“From very close – hygiene along the patient journey.” Speech by Dr. Henning Mallwitz, Director BODE SCIENCE CENTER, Director Research & Development, BODE Chemie, Hamburg, Germany held at the Lunchtime Symposium “Pathogens resistant to antibiotics: new hygiene strategies along the patient journey”, 17 November 2016, Berlin, arranged by the BODE SCIENCE CENTER, Hamburg, scientific centre of excellence of PAUL HARTMANN AG, Heidenheim.

