Background: To determine rate, microorganism profile, bacterial resistance, extra length of stay (LOS) and extra mortality of Central Line associated Bloodstream Infection (CLAB) in intensive care units (ICUs) of 23 countries in INICC hospitals in Argentina, Brazil, China, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, India, Jordan, Kosovo, Lebanon, Macedonia, Mexico, Morocco, Pakistan, Panama, Peru, Philippines, Serbia, Thailand, Tunisia, and Turkey.

Methods: An open label, prospective cohort, active device-associated infection (DAI) surveillance study was conducted on adult, pediatric and neonatal patients admitted to tertiary-care ICUs. DAI rates were collected from 166 ICUs, and were recorded by using CDC-NNIS definitions. Microorganism profile, bacterial resistance, LOS and mortality data were collected in 128 out of the 166 ICUs. Data were collected from patients with and without DAI using the INICC protocol, forms and methods, which provided researchers with a general view of patients’ outcomes, allowing researchers to suspect DAI and avoid possible DAI omissions if no cultures were done. Patients with and without DAI can be matched to calculate LOS, costs, and extra mortality. Data were uploaded and analyzed at INICC office. Statistical analysis was performed using Chi-square test. P < 0.05 was considered significant.

Results: We collected data from 01/02 to 11/08, representing 563,322 CL days. The pooled CLAB rate was 8.06 per 1000 CL days; data stratified by ICU type are shown in Table. Overall 17.1% of all CLAB were caused by Staphylococcus aureus (83.1% were MRSA); 17.1% by Coagulase-negative staphylococci (80.1% were methicillin resistant); 13.9% by Acinetobacter sp (83.3% were Piperaciline-Tazobactam resistant); and 11.8% by Pseudomonas sp (42.2% were imipenem resistant). The LOS of patients without DAI was 5.3 days; and of patients with CLAB, 16.7 days (RR, 3.14), representing 11.4 extra days. 7,464 out of 32,549 (14.2%) patients without any DAI died; 397 out of 1,305 patients (30.4%) with CLAB died, the extra mortality being 16.2% (RR, 2.14, 95% CI, 1.94–2.37, P, 0.0001).

Conclusion: Pooled CLAB rate of 8.02 per 1000 CL days was higher than the 2.0 rate (medical surgical ICUs) per 1000 CL days published by CDC-NNIS. Patients with CLAB had a significantly higher LOS, with 11.4 extra days, and extra mortality of 16.2%.

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Central line associated bloodstream infection rates, extra length of stay, extra mortality and microbiological profile in a German tertiary intensive care unit: findings of the International Nosocomial Infection Control Consortium

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Background: To determine rate and consequences of central line associated bloodstream infection (CLAB) in 1 German surgical intensive care unit (ICU) cooperating with the International Nosocomial Infection Control Consortium (INICC).

Methods: We performed an open label, prospective cohort, active surveillance study in adult ICU patients of a German tertiary-care hospital. At the ICU, for all patients semi-rigid and/or glass infusion containers and stopcocks were used. INICC (www.inicc.org) protocols, forms and methods were used. According to these methods, data is collected from patients with and without healthcare associated infections (HAIs) enabling the match for variables such as age, gender, underlying diseases, diagnosis, severity-of-illness, invasive device use in order to calculate risk factors and outcome parameters. In this study, length of stay (LOS) and extra mortality are presented. Statistical analysis was performed using Chi-square test. P < 0.05 was considered significant.

Results: 447 patients were enrolled from 02/08 to 10/08, representing 2,844 bed days. The overall CLAB rate was 7.86 per 1000 central line (CL) days. Overall, 33.3% of CLABs were caused by Staphylococcus aureus (n = 4), 0% were methicillin resistant; 33.3% by coagulasenegative staphylococci (n = 4), 100% were methicillin resistant; and 33.3% by Enterococcus spp. (n = 4), 0% were vancomycin resistant. LOS of patients without HAI was 4.5 days; LOS of patients with CLAB was 18.9 days (RR, 4.19; 95% CI, 3.68 – 4.77; P < 0.001), representing 14.4 extra days. 20 of 406 (5%) patients without HAI died, whereas the course of 2 of 14 patients (14%) with CLAB was fatal. Extra mortality was 9% (RR, 2.90; 95% CI, 0.68 – 12.41, P = 0.13).

Conclusion: In this study, the CLAB rate of 7.86 per 1000 CL days is lower than the published rate of 9.2 per 1000 CL days observed in other hospitals cooperating in INICC. INICC methods allow for the comparison between patients with and without HAIs; LOS in patients with CLAB was significantly
Impact of outcome surveillance on ventilator associated pneumonia rates in 3 intensive care units from 2 Mexican cities: findings of the International Nosocomial Infection Control Consortium (INICC)

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Background: To determine the effect of outcome and process surveillance (intervention) on the rate of Ventilator Associated Pneumonia (VAP) infection in three intensive care units (ICU) from 2 cities of Mexico.

Methods: An open label, prospective cohort, active VAP surveillance, sequential study was conducted on adult and neonatal patients admitted to tertiary-care ICUs. Rates of VAP were recorded by applying the definitions provided by CDC-NNIS. The protocol, forms, and outcome and process surveillance methodology used were developed by the INICC. Data were collected from patients with and without device associated infection (DAI). Forms were designed to continuously prompt surveillance officer to suspect DAI by providing a panoramic view of outcomes for each patient (eg, vital signs, invasive device use, cultures, antibiotic use, etc); this is useful when no cultures have been done and thus DAI could be wrongly omitted. Data were collected in ICU. Data uploading and analysis were done at INICC office analyzing DAI rates, microbiological profile of isolates, bacterial resistance, LOS, extra mortality. The VAP rates during baseline were compared to the rates during an intervention period. Statistical analysis was performed using Chi-square test. P < 0.05 was considered significant.

Results: The baseline period included the first eight months of the medical centers’ participation, and the intervention period lasted a mean of 8 months (range 7-9 months). During the baseline period, 584 ICU patients were enrolled, and 454 patients were enrolled during the intervention period. Patients’ characteristics were similar over the two periods (Patient gender, P: 0.3394; Diabetes, P: 0.1715; Renal Failure, P: 0.3951; Stroke, P: 0.2929). The rate of VAP per 1,000 ventilator days during the intervention period was significantly lower than during the baseline period, 17.6 (19/1,078) vs 8.3 (15/1,797) VAP per 1,000 ventilator days (RR, 0.47; 95% CI, 0.24-0.93; P 0.0267).

Conclusion: Outcome and process surveillance resulted in a significant reduction in the VAP rate.

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Expectations and perceptions of Nigerian patients regarding infectious diseases in dentistry

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Background: Dental treatment procedures frequently involve blood and saliva that may be contaminated with infectious diseases. There has been no recent assessment of Nigerian patients’ concern on the risk of infectious diseases transmission during dental care.

Objective: To assess the expectations and perception of Nigerian patients regarding infectious diseases in dentistry.

Methods: A questionnaire based cross-sectional survey of patients attending dental centre of University of Benin Teaching Hospitals, Nigeria was conducted in 2009.

Results: The majority of patients (76.5%) expressed worry about contracting infection during the dental treatment and 47.4% of them identified HIV as a risk. One hundred and three (25.4%) would avoid dental treatment because of fear of contracting HIV. Ninety-two (22.7%) would switch from HIV infected dentists and 37.8% would not allow HIV-infected dentist to treat them. Only 10.4% of the respondents would expect the dentist to refuse treat to HIVinfected patients.

Conclusion: This survey revealed that a high proportion of Nigerian patients are worried of infectious diseases during dental treatment which also influenced their dental care seeking behaviour. Improved public education and risk communication on dental care associated infectious diseases is needed to allay the fear of Nigerian patients.

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Nosocomial infections in a pediatric hospital in Santo Domingo, Dominican Republic

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Background: Nosocomial infection or “healthcare associated infection” lead to significant morbidity, mortality and economy burden beyond those expected for patients’ underlying diseases alone, patients with nosocomial stay extra 10-14 days. In the developing world the nosocomial infection rate can be 25%.

Methods: This is a descriptive, observational, cross sectional study to determine the characteristics of nosocomial infection in Hospital Infantil Dr. Robert Reid Cabral, in the period of January-June 2009; we looked through the reports from the hospital’s Nosocomial Infections Surveillance Committee.

Results: The period between January and June 2009, 3200 patients were admitted to the hospital, from those 127 (3.96%) developed a nosocomial infection. 74.8% (N 95) were admitted in areas considered high risk areas - Neonatal Intensive Care Unit (NICU) 16.5% [21/127]; Pediatric Intensive Care Unit (PICU) 9.4% [12/127]; Newborn unit 13.4%