microbiome disruption indices obtained at LTACH admission showed poor predictive performance for subsequent VAP and VAE. But diversity and abundance models incorporating recent VAP history and admission antibiotic exposure performed well predicting
14-day and 30-day VAP.
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Presentation Type:
Poster Presentation
Comparison of Two Novel Methods for Sink Drain Disinfection
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Background: Sink drainage systems are a potential reservoir for the dissemination of gram-negative bacilli but are not amenable to standard methods of cleaning and disinfection. Pouring liquid disinfectants down drains has only a limited and transient effect on drain colonization, presumably due to inadequate disinfectant contact time and suboptimal penetration into areas harboring biofilm-associated organisms. **Methods:** We compared the antimicrobial efficacy of 2 novel sink disinfection methods intended to enhance disinfectant contact time and penetration. Healthcare facility sinks were randomly assigned to disinfection with 300 mL hydrogen peroxide-based disinfectant applied either as a foam (N = 13 sinks) or instilled for 30 minutes behind a temporary obstruction created by an inflated urinary catheter balloon (N = 12 sinks). Swabs were used to collect quantitative cultures from the proximal sink drain to depth of 2.5 cm (1 inch) below the strainer before treatment and at 15 minutes and 1, 2, 3, 5, and 7 days after treatment. Repeated measures analysis of variance was performed to compare the efficacy of the 2 treatments. **Results:** As shown in Fig. 1, both methods yielded an initial reduction of >3 log10 CFU of gram-negative bacilli. Over the 7-day follow-up period, disinfectant instillation resulted in significantly greater reduction than the foam application ($P < .01$). Recovery of sink colonization to >2 log per swab occurred at day 3 for both treatments, whereas recovery to >3 log per swab occurred on day 3 for the foam treatment versus day 7 for disinfectant instillation. **Conclusions:** Two novel disinfection methods were effective in reducing sink drain colonization for several days. The instillation method was more effective than the foam method in maintaining reductions over 7 days.

Figure. Effect of a single disinfectant treatment on recovery of Gram-negative bacilli from sink drains

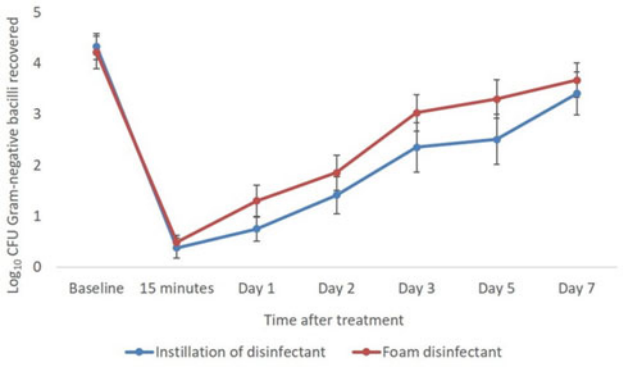

Fig. 1.

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Poster Presentation
Compliance with Standard Precautions Among University Nursing Students From Croatia: A Cross-Sectional Study
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Background: Stringent compliance with standard precautions is of utmost importance for reducing the spread of healthcare-associated infections (HAIs); however, the role of medical and nursing students is often underappreciated. Because undergraduate and graduate nursing programs combine classroom education and clinical training, nursing students are already important stakeholders in HAI risk reduction and patient safety endeavors. **Objectives:** In this study, we appraised self-reported adherence to standard precautions among university nursing students, and we examined factors that may influence their level of compliance. **Methods:** In total, 362 undergraduate and graduate university nursing students form the University North in Croatia (Europe), enrolled in courses or modules with clinical placement, were surveyed in this self-reported cross-sectional study. A 2-part self-administered questionnaire was used, consisting of a demographic survey and a globally applicable 20-item Compliance with Standard Precautions Scale (CSPS). Differences were examined by an independent *t* test and analysis of variance (ANOVA), and factors influencing compliance were further appraised by a standard multiple linear regression analysis. Significance was set at $P < .05$ (2-sided). **Results:** The overall compliance rate in this study was 58.4%. The highest compliance rate was observed for wearing gloves when exposed to body fluids, blood products, and any excretion of patients (82.8%); conversely, the lowest compliance rate was reported for disposing a sharps box before it was full (27.2%). Higher rates of compliance were seen in female nursing students compared with their male counterparts ($P = 0.039$). Even though age was not a significant predictor, there was an increase in compliance rates according to the academic year level ($P < .001$). **Conclusions:** Our results indicate that the overall compliance rate of the Croatian nursing students was moderate, although there was a trend toward more rigorous standard precaution adherence with more education and clinical experience. These findings highlight the need to improve the nursing curriculum to integrate more material on infection control practices early in the program, consequently bridging the gap between theory and practice. Finally, a supportive culture of infection control adherence in quotidian clinical practice must be continuously fostered.

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