

800. Needle Stick And Sharps Injuries Among Health Care Workers – The Experience of a Tertiary Hospital in Jamaica

Sue-Ann Martin, MBBS, DM (Internal Medicine)¹; Tamara Thompson, B.Sc., MBBS, DM (Internal Medicine), FRCP (London)¹; Trevor Ferguson, MBBS, DM, MSc, PhD, DLSTHM, FACP, FRCP¹; ¹University of The West Indies, Mona, Jamaica, Kingston; ²Kingston, Jamaica

Session: P-42. HAI: Occupational Infection Prevention

Background. Despite advances in occupational safety protocols in healthcare facilities, needle stick and sharps injuries (NSSIs) continue to be a concerning occurrence among healthcare workers (HCWs). Such exposures lead to the risk of blood borne infections as well as emotional and financial consequences which may be difficult to measure. Few studies on NSSIs among Jamaican HCWs have been published in the last decade. We evaluated adherence to established NSSIs management protocols and investigated the demographic and work-related characteristics of HCWs sustaining NSSIs. The proportion of HCWs affected and frequency and direct costs associated with these injuries were estimated.

Methods. This retrospective case-series reviewed HCWs employed or contracted to an urban tertiary teaching hospital in Jamaica, who reported NSSIs in the emergency room during the period January 1, 2015 and December 31, 2018. Archived incident reporting forms for these HCWs were reviewed. Data were analyzed using STATA 14 statistical software.

Results. 57 cases of NSSIs were reported at an average rate of 1 per month and an annual incidence of 0.14 per 100 beds and 4.75 per 100 workers. 49 (86%) HCWs were female and 18 (14%) were male. 55% of HCWs were between the ages of 24-29 years old. Nurses (53%) and physicians (19%) made up most of the sample. 28 (58%) HCWs reported not wearing gloves during the incident. Improperly handling used sharps and re-capping needles were reported by 26 (46.5%) and 17 (30%) of HCWs respectively. HIV and viral Hepatitis screening of source patients were performed 85% and 55% of the time respectively. Only 25% of HCWs were prescribed HIV post exposure prophylaxis. Post-injury counselling occurred with 52 (91%) HCWs and follow up care arranged for 36% of cases. The mean direct cost associated with the initial management of the HCW was US \$163.22 per NSSI.

Conclusion. The frequency of reported NSSIs by HCWs is low but the burden of direct costs is high. There is inadequate adherence to NSSIs management protocols and accurate monitoring systems are lacking. We recommend the need for safer needle disposal methods and devices, routine auditing of sharps practices and training in occupational hazard prevention and management. This may improve occupational risk perception among HCWs and workplace safety.

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801. Patient Reported Experience with Influenza Episode and Impact on Life and Work

Nate Way, PhD¹; Ashley Martin, PhD¹; Chris Wallick, PharmD, MS²; Edward Neuberger, PharmD, MBA, MS²; Mitra Corral, MS, MPH²; ¹Health Outcomes Practice, Kantar Health, San Mateo, CA; ²Genentech, Inc., South San Francisco, CA

Session: P-42. HAI: Occupational Infection Prevention

Background. Influenza is a highly prevalent seasonal disease that has a wide range of impact on patients, including experiencing symptoms, social isolation, missing work, and worrying about transmitting to others. The aim of this study was to better understand patients' experience with influenza, areas of life that were most impacted and what matters most to patients.

Methods. Data for this study were obtained from two online quantitative surveys of influenza patients: A pool of respondents who previously completed the National Health and Wellness Survey (NHWS) (N=74,977) OR from Lightspeed M3 Global's online "General Panel" (N=500,000+) in the US between January 2020 through May 2020. A total sample of 1,005 patients >18 years of age and having a self-reported diagnosis of influenza by a healthcare professional within the last 90 days were included. Outcomes related to patient demographics, health-related characteristics, perspectives on the influenza episode and productivity impairment (measured by the Work Productivity and Activity Impairment questionnaire) were collected.

Results. Influenza patients reported greatest impact on physical activity, running errands and chores outside the home, and overall lifestyle. 64% were employed at the time they experienced influenza. They missed a mean 23 hours of work due to problems associated with their influenza and actually worked for 15 hours during the 7 days after first experiencing symptoms. Mean absenteeism (work time missed), presenteeism (impairment at work), overall work impairment, and activity impairment was 59%, 73%, 87% and 75%, respectively. For employed respondents, 60% missed work because of transmission worry; about 40% of patients had somebody else get flu shortly after them and about 68% of those people felt responsible for transmitting.

Conclusion. Influenza greatly reduced respondents' ability to be productive at work and in their daily activities outside of work. Worry about transmitting an influenza infection to others was a highly influential motivator for missed work or other responsibilities.

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802. Corynebacterium striatum Outbreak Among Ventilated COVID-19 Patients in an Acute Care Hospital – California, 2021

Janice J. Kim, MD, MPH¹; Nancy E. Turner, MSN, RN²; Emily Holman, MSc³; Linda Lefrak, RN, MS¹; Fady A. Youssef, MD⁴; Patrizia Richardson, MBA, BS⁵; Rituparna Mukhopadhyay, PhD¹; John Crandall, n/a¹; Henry Su, MD⁶; Erin Eppson, MD¹; ¹California Department of Public Health, Richmond, California; ²Memorialcare Long Beach Medical Center, Simi Valley, California; ³Long Beach Department of Health and Human Services, Long Beach, California; ⁴Long Beach Memorial Medical Center, Long Beach, California; ⁵Long Beach Memorial Medical Center, Redondo Beach, California; ⁶MemorialCare Long Beach Medical Center, Long Beach, California

Session: P-43. HAI: Outbreaks

Background. *Corynebacterium striatum* (CS), a common human commensal colonizing the skin and nasopharynx, has been associated with nosocomial infections in immunocompromised and chronically ill patients. During the winter 2020-2021 COVID-19 surge, a 420-bed California hospital reported a marked increase in CS respiratory cultures among ventilated COVID-19 patients. We conducted a public health investigation to assess and mitigate nosocomial transmission and contributing infection prevention and control (IPC) practices.

Methods. A case was defined as a patient with CS in respiratory cultures from January 1, 2020 - February 28, 2021. We reviewed clinical characteristics on a subset of cases in 2021 and IPC practices in affected hospital locations. CS respiratory isolates collected on different dates and locations were assessed for relatedness by whole genome sequencing (WGS) on MiSeq.

Results. Eighty-three cases were identified, including 75 among COVID-19 patients (Figure 1). Among 62 patients identified in 2021, all were ventilated; 58 also had COVID-19, including 4 cases identified on point prevalence survey (PPS). The median time from admission to CS culture was 19 days (range, 0-60). Patients were critically ill; often it was unclear whether CS cultures represented colonization or infection. During the COVID-19 surge, two hospital wings (7W and 7S) were converted to negative-pressure COVID-19 units. Staff donned and doffed personal protective equipment in anterooms outside the units; extended use of gowns was practiced, and lapses in glove changes and hand hygiene (HH) between patients likely occurred. In response to the CS outbreak, patients were placed in Contact precautions and cohorted. Staff were re-educated on IPC for COVID-19 patients. Gowns were changed between CS patients. Subsequent PPS were negative. Two CS clusters were identified by WGS: cluster 1 (5 cases) in unit 7W, and cluster 2 (2 cases) in unit 7S (Figure 2).

Figure 1. *Corynebacterium striatum* Respiratory Cultures January 2020-February 2021

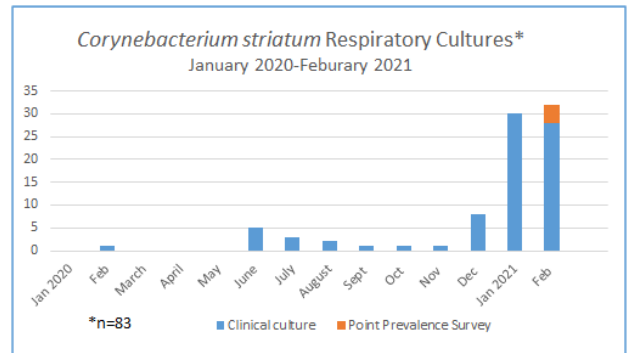
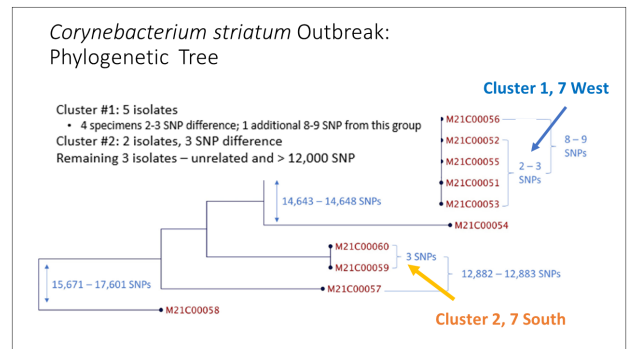


Figure 2. Phylogenetic Tree *Corynebacterium striatum* Isolates



Conclusion. A surge in patients, extended use of gowns and lapses in core IPC practices including HH and environmental cleaning and disinfection during the winter 2020-2021 COVID-19 surge likely contributed to this CS outbreak. WGS provides supportive evidence for nosocomial CS transmission among critically ill COVID-19 patients.

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