Health care workers (HCWs) are at high risk for occupational blood exposures (OBEs) and transmission of bloodborne pathogens. This study elucidated the incidence rate and epidemiological characteristics of OBEs among HCWs and investigated the pathogen transmission rate for hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV)” Lee et al (2017).

Abstract:

BACKGROUND: Health care workers (HCWs) are at high risk for occupational blood exposures (OBEs) and transmission of bloodborne pathogens. This study elucidated the incidence rate and epidemiological characteristics of OBEs among HCWs and investigated the pathogen transmission rate for hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV).

METHODS: Self-reported OBEs from January 1, 2011 to December 31, 2015 were obtained from the electronic recording system. OBE incidence densities per 100 person-years and per 100 bed-years were calculated with a 5-year trend analysis. OBE characteristics and pathogen transmission rates were evaluated.

RESULTS: Among 10,452 HCWs and 1072 average yearly beds, 1076 OBEs were reported.
OBE incidence rate was 5.6 cases per 100 person (full-time equivalent)-years and 20.3 per 100 bed-years. Incidence rate decreased and was significantly associated with a decrease of beds served per HCW. Housekeeping showed the highest OBE rate (14.8%) followed by doctors (8.5%) and nurses (6.2%). OBEs occurred in wards, emergency rooms, and operating rooms (38.1%, 13.3% and 12.2%, respectively) via percutaneous (86.7%) and mucocutaneous exposures (13.2%). Of OBEs associated with HBV (n = 133), HCV (n = 126), and HIV (n = 25), only one led to an infection (HCV; transmission rate of 0.8%). Neither HBV nor HIV infection occurred.

CONCLUSIONS: OBE incidence rate in a Korean university hospital was 5.6 cases per 100 person-years and 20.3 per 100 bed-years and was related to HCW workload and work proficiency. Though the actual bloodborne pathogen transmission rate was low, efforts to prevent OBE should be made for hospital safety.

Reference:
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