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Construction Worker Safety Behaviours Towards Respirable Crystalline Silica

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Abstract

Occupational health and safety reforms have implemented widespread changes nationally to control worker exposure and monitor health of employees for harm associated with respirable crystalline silica. Workplace control measures currently rely on engineered, administrative, and personal/respirable protective equipment, as elimination or substitution of processes generating respirable crystalline silica is not yet practicable. Further, many control measures implemented in workplaces currently rely on human behaviour to fully activate a control measure (e.g., physically turning on water or vacuum systems). This study investigated the safety behaviours towards respirable crystalline silica in a sample of 204 construction workers. These workers reported that more than 50% of control measures implemented required human behaviour, including engineered control measures. Alarmingly, many workers were only engaging in behaviours to fully implement a control measure around half to most of the time, with some workers reporting they never engage in control measure activation. These findings suggest that workplaces need to consider the effectiveness of their control measures where human behaviour is used to maintain worker health and safety and evaluate worker compliance with existing measures. Considerations to fully automate engineered control measures (to remove reliance on human behaviour) particularly when engineered measures are relied upon as the primary defence against preventing silicosis in workers is suggested.

Keywords: construction management; hazard control; occupational health and safety; respirable crystalline silica; risk management