



KEY POINT SUMMARY

OBJECTIVES

The objective of this study was to examine if the nucleic acid of potentially pathogenic viruses can be found on environmental surfaces and in the air in a pediatric hospital outpatient waiting area in the UK.

Environmental Viral Contamination in a Pediatric Hospital Outpatient Waiting Area: Implications for Infection Control

D'Arcy, N., Cloutman-Green, E., & Klein, N. 2013 | *Environmental Viral Contamination in a Pediatric Hospital Outpatient Waiting Area: Implications for Infection Control Volume 42, Pages 856-860*

Key Concepts/Context

Many viruses found in the healthcare environment are known to survive for long periods of time on inanimate objects or in the air. Pediatric healthcare environments are particularly susceptible to viral infections. Alluding to other studies where work surfaces, doors, and other touch surfaces were shown to be contaminated by virus, this study aims to find out if common touch sites in a pediatric healthcare environment can be contaminated with potentially infectious viruses. After collecting swabs from different surface sites and from the air, the study found that many surfaces were contaminated with viruses and bacteria, posing a risk for infection.

Methods

This study involved the testing two types of samples – from surfaces and from the air – once a month over three months, November through January. Surface sampling involved running wet cotton swabs over selected surfaces for viral contamination and pressing contact plates on the surfaces for bacterial contamination. A total of 78 sites were swabbed. These included furniture, toys, books, floor, and door handles. The air sampling was done with the help of a Burkard C90M cyclone sampler (Burkard, Rickmansworth, UK) placed at the nurses' station.

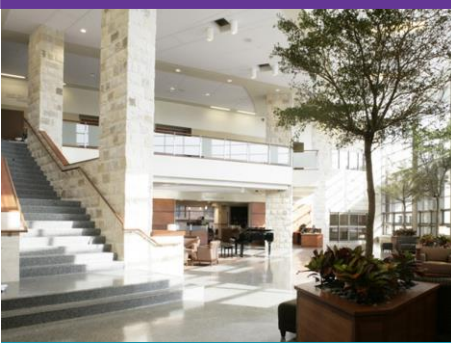
Findings

The study found that viral contamination was present in 42% of the swabbed sites. In 19% of the swabbed sites, more than one virus was found. The highest detection of virus occurred in December, when 60% of the swab sites were found to be contaminated, and the lowest was in January. The November air sample was found



DESIGN IMPLICATIONS

There are no design implications to be inferred from this study.



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to be contaminated. Of the surfaces swabbed, the top of the television was found to have the highest contamination of viruses. Other highly virus-contaminated surfaces included the top of a chair, the reception desk, the arm of a nurse's chair, and two door handles. Other objects had varying amounts of viral contamination as well. Bacterial contamination was also found in 80% of the sampled sites. The chair arm was the most highly contaminated site, while the top of the television, the reception desk, and a chair were also found to be contaminated.

Limitations

The authors indicate that based on the above findings alone it was difficult to ascertain if the presence of these viruses on the different surfaces was significant to the spread of disease.