Pediatric Infection Rates Related to Toys in Waiting Rooms

MidAmerica Nazarene University
INFECTION RELATED TO TOYS

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Many hospital and primary care pediatric waiting rooms are missing items that have long-since been a source of entertainment and distraction for ill children and their siblings as they wait to be seen by a provider. The items are toys and books which have recently been removed from pediatric waiting rooms based on recommendations from many professional medical organizations including the American Academy of Pediatrics (Beaulieu, 2015). These actions pose a question: In the pediatric population, could the nosocomial infection rate decrease if toys are removed from waiting areas? The goal of this paper is to prove that removing toys and books from the waiting room helps prevent nosocomial infections.

The literature included in this paper was found using a search engine called Proquest from the library website at MidAmerica Nazarene University. Google was also utilized in the search for scholarly articles. Key search words included “pediatric,” “nosocomial,” “infection,” “waiting room,” and “toys.” The search was limited to articles published between 2008 and 2015. The main theme found in the searched articles pertained to the presence of pathogens on waiting room toys and/or inanimate objects.

For years, mothers have been heard in waiting rooms telling their children, “don’t touch that,” referring to those well-worn toys and books in the waiting room that help make the waiting a little easier. Many parents have carried their own hand sanitizer to be used by their children after touching such objects. Now, pumps of alcohol-based hand sanitizer can be found on the counter-tops of the receptionist’s desk. It seems more people are becoming more aware of the potential for illness and are, therefore, trying to take measures to protect themselves and others against environmental pathogens. In studies conducted of toys in waiting rooms, toys contained staph aureus, methicillin-resistant staph aureus (Dancer, 2008), influenza B, picornovirus, and
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rhinovirus (Southall, 2009), as well as other types of viruses and bacteria. Because of these recommendations and findings, many pediatric waiting rooms have removed books and toys. However, a few offices have opted instead to clean the toys and return them to the waiting room (Schuman, 2014). Unfortunately, cleaning toys is difficult depending on the type of material of which the toy is constructed. A study showed the presence of coliforms on 14% of hard toys and 90% of soft toys in a pediatric waiting room (Pofsay, et al., 2008). Washing the soft toys in the washing machine did not remove the bacteria. Cleaning the hard toys with a commercially available antimicrobial cloth only removed a few of the organisms after cleaning (Southall, 2009). Some studies cited toys were cleaned daily; others were only cleaned twice per week due to office personnel constraints. “As a result, many physicians no longer provide toys in their waiting rooms because the resources needed to disinfect them are prohibitive (Bidess, 2013).”

In one study, reverse polymerase chain reaction, or, PCR, was used to detect RNA viruses in pediatric waiting rooms. “On three different occasions, 20 swab samples were taken from toys in the well-child waiting room and 15 samples were taken before and after disinfecting the sick-child waiting room” (Southall, 2009). Polymerase chain reaction helped identify respiratory syncytial virus (RSV), rhinovirus (picornavirus) and influenza A or B. Viral RNA from picornavirus was found on 11 of the toys. One other positive result was found to be influenza B virus. Out of the 60 toys tested, a total of 12 tested positive for viral RNA (Southall, 2009). In addition to the testing of waiting room toys, additional testing was done on new toys which were still in plastic packaging. These new toys were given to the children as they left the doctor’s office. The toys were in a bag and were “rifled” through by children who were deciding which toy to pick. The outside packaging of 30% of the new toys also tested positive for viral RNA (Southall, 2009).
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Additional research yielded a similar result:

Soft toys given to children in waiting rooms of general practitioners were more likely to be contaminated: 20% showed moderate to high coliform contamination and 90% had moderate to high bacterial contamination. Hard toys were found to be cleaned and disinfected more easily and had lower levels of contamination: 13.5% showed coliform counts, and hard toys were less likely to be re-contaminated. This study on the bacteriology of toys concluded that soft toys posed a risk of infection in waiting areas. (Gulwadi, Joseph, & Keller, 2009)

Infection control practices continue to be explored. Some offices have decided to treat patients over the phone instead of bringing them into the office if the patient’s symptoms sound infectious. Door knobs are being wiped down more frequently and toys and books are being removed from well and sick child waiting areas (Beaulieu-Volk, 2015). However, one article cautions that removing toys from waiting rooms could possibly make patients feel less welcome (Beaulieu-Volk, D., 2015).

An alternative to waiting room toys is a hands-off interactive projection screen at an emergency room in Modesto, California. “Instead of children's toys in waiting areas, which can harbor germs, the emergency department lobby has an interactive play area that projects images on the wall for children to play with by waving their hands” (Sullivan, 2014).

Even though it seems society is becoming more vigilant regarding germs, it could become easy to let down our guard as infection rates decrease. Regarding the recent H1N1 pandemic, Dr. Doug Sider states,

To recommend that we only consider more aggressive compliance with all of these infection prevention and control measures in the face of something like
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pandemic influenza, and then step back, relax our vigilance, relax our expectations, relax our urging to compliance at other times, just doesn't make a lot of sense to me (Senger, 2011).

So, with the quantitative evidence presented from various studies (including PCR-RNA studies) and the recommendations from the American Academy of Pediatrics to remove toys from waiting rooms, it appears there is evidence that the removal of toys from pediatric waiting rooms should result in a decreased rate of nosocomial infections. Perhaps more study is needed to determine an exact rate of decrease in nosocomial infections, as no literature was found which had current rates of nosocomial infections from pediatric waiting rooms. Current rates of infection with toys in the waiting rooms would need to be compared to nosocomial infection rates after the removal of toys. Standardized cleaning of surfaces in the waiting room such as carpet, chairs, countertops, clipboards, pens, and other objects would also have to be performed since these surfaces are known fomites, as well.

The nurse should use this information to help keep the patient’s environment clean, thereby keeping her patients free from harm. Education and prevention is key to help prevent needless and costly transmission of pathogens. The nurse can make his or her own observations in the pediatric waiting room and ascertain if action is needed. Armed with information regarding the hazards of waiting room toys, the nurse can make evidence-based recommendations to the office manager regarding what action should take place.
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