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EDITORIAL

Toys from hospital playrooms as a source of pathogens in nosocomial infections

Brinquedos em brinquedotecas como uma fonte de microrganismos patogênicos para as infecções hospitalares

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“...it is play that is universal, and that belongs to health: playing facilitates growth and therefore health.”

Winnicott

Playing is part of the child's life, and it is through play that the child often expresses nonverbal feelings. This form of expression is of great importance when subjected to injuries, such as hospitalization. To deprive the child of her language is to worsen the injury. Thus, an appropriate space for playing within the hospital environment is highly recommended. In Brazil, since 2005, hospitals providing pediatric care are required by law to have playrooms.¹

If, on the one hand, the playroom provides a place for children to express their feelings during hospitalization and minimize suffering, being a place within the hospital environment that is recalled with joy, on the other hand, the socialization and close contact with toys handled by other children can facilitate the acquiring of infections. Unfortunately, toy contamination can occur and hospital infection outbreaks have been attributed to it.²⁻⁴

Children have some particular characteristics that predispose them to infectious processes, such as immunological immaturity, lack of previous contact with pathogens, lack of sphincter control in young children and the oral phase of child development. These are added to the very close interaction with healthcare team and family mem-

bers and, therefore, greater contact with potentially contaminated hands and utensils. Moreover, infectious causes very often predominate in pediatric hospitalizations.⁵

Although the increased vulnerability of children and pathogen exposure are well known, the role of contamination of surfaces and particularly of toys has received little attention from hospital infection control and research teams and it is considered a priority.^{6,7}

Boretti *et al*,⁸ in an article published in the present issue of this journal, showed that microorganisms of the *Staphylococcus* genus, both coagulase-negative and positive, with high resistance to antimicrobials commonly used in the treatment of hospitalized patients, were present in 87% of the toys they analyzed immediately after they were handled by the child. It has the merit of showing that contamination is high by resistant microorganisms and that contamination is more intense in some materials, such as plastic and rubber.

Some limitations are identified and can be used for the continuation of this line of research. The study design does not allow knowing where the contamination occurred, whether the toys were already contaminated before being handled by the child. It is known that staphylococci remain viable for many days in fomites and surfaces.^{9,10} The origin of the microorganisms cannot be analyzed either and a curious fact is the finding of coagulase-positive staphylococci, such as *S. intermedius*, *S. schleiferi* and *S. hyicus*.^{5,11}

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These species are commonly found in pets, such as dogs and cats;^{5,11} would the origin of the microorganisms found in the toys be the children exposed to animals before admission? Or do these hospitals allow animal assisted activity? The presence of microorganisms does not prove that they can infect patients, but studies using molecular biology technology could certify the origin of the strains that infect patients.⁵

In any case, preventive measures to prevent the spread of microorganisms should be taken. In addition to the classical measures of cleaning and disinfecting toys and therefore the choice of washable toys and hand hygiene, one should not forget the hand hygiene of children¹² and cleaning and disinfection of surfaces and furniture in the environment.¹⁰ Innovative technologies, such as self-cleaning surfaces, care methods with little manipulation, specific areas intended for recreation, should be assessed in pediatric hospitals.^{6,7,10}

Conflicts of interest

The author declares no conflicts of interest.

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