



EDITORIAL

The time has come to invest more in the prevention of day care-associated infection in children☆☆☆



Chegou o momento de investir mais na prevenção de infecções associadas às creches em crianças

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The shift from home-care to day care has had a significant impact on pediatric health and still remains a major risk factor for infections in toddlers and young children.¹ The estimated risk is two to three times higher in children attending daycare when compared with those who stay at home.² Young children are particularly susceptible to respiratory and gastrointestinal infections, which, although, usually viral, mild, and self-limiting, are highly contagious and spread easily in semi-closed settings, such as day care centers. Another factor that further contributes to the susceptibility to infections is still developing immune system, especially in infants and young toddlers.³

Several studies have shown that day care attendance may cause substantial economic burden not only to the family but society in general due to increased healthcare visits, antibiotic usage, hospitalizations, and parental productivity losses due to sick leave for child's illness.^{1,4} It has been shown that the children who are mostly prone to acquire an infection

are those who start day care before the age of 2 years, and most infections develop in the first months after entrance.⁵

In this issue of the *Jornal de Pediatria*, Oliveira et al. present interesting cross-sectional data from the prospective Pelotas Birth Cohort aiming to identify risk factors for acquiring infections during the first 12 months of age.⁶ Identified risk factors for acquiring infection include male gender, children of younger mothers, and crowded households. Similarly, as previously described, this study identified that preterm birth and smoking during pregnancy are associated with increased risk for respiratory tract infection.⁷

However, the main (and independent) risk factor was day care attendance during the first year of life.⁶ From the whole cohort, which included 4018 infants, 11.7% entered day care during infancy, and the highest prevalence of day care use was observed among older mothers with higher level of education, and who breastfed for a longer period. This reflects the mothers' need to provide income for family and to ensure a safe environment for their children.¹ Children were especially prone the infections at the period when they start attending day care.

All these findings further emphasize the need for proper preventive measures especially at the time of the introduction to the day care. These measures should include proper hand hygiene, exclusion of infected children from the day care, and assessment of the possible role of

DOI of original article:

<https://doi.org/10.1016/j.jpmed.2018.05.012>

☆ Please cite this article as: Hojsak I. The time has come to invest more in the prevention of day care-associated infection in children. *J Pediatr (Rio J)*. 2019;95:623–4.

☆☆ See paper by Oliveira et al. in pages 657–66.

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<https://doi.org/10.1016/j.jpmed.2018.10.001>

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probiotics. A 2016 meta-analysis identified 18 cluster randomized controlled trials investigating the effect of a hand hygiene on infection among 3–11-year-old children in educational settings and found that interventions may reduce children's day care absence and incidence of respiratory tract infections.⁸ Furthermore, pediatricians should identify patients that could easily spread infectious diseases and recommend that they should not attend day care, at least during the contagious phase of the infection.⁶ Lastly, although the aforementioned measures are effective, there is an increasing evidence for probiotic use in the prevention of respiratory tract infections. A recent meta-analysis showed that some probiotic strains (mainly LGG) could have promising effect.⁹ However, for clear recommendations, more evidence is needed. Furthermore, it has been shown that infants cared for by childminders were less likely to acquire an upper respiratory tract infection than those in larger age-integrated facilities, which may reflect less crowding in childminders' homes.^{5,10} Therefore, this could be possible alternative to day care, especially for children in the first two years of life.

Although the study by Oliveira et al. has some limitations, mainly related to the retrospective recall of medical diagnosis and the fact that the questionnaire was conducted only at the one time point (age of 12 months), the study strongly confirms significant health-related burden for infants entering day care centers.⁶ Therefore, it is important for health care providers to investigate and implement possible preventing measures in order to significantly reduce disease incidence. Well-designed preventive measures could potentially lead not only to a reduction of the clinical burden but also to considerable societal cost savings, indicating that this problem should not be addressed only by parents and pediatricians, but by society in general.

Conflicts of interest

The author declares no conflicts of interest.

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