

TITLE: EPIDEMIOLOGICAL REVIEW OF *Clostridium difficile* INFECTIONS IN CHILDREN IN BRAZIL

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ABSTRACT:

The paediatric population hasn't previously been known to be at high-risk for *Clostridium difficile* infection (CDI), studies demonstrate that infection in children has changed over the past decade, and this change is manifested by an increase in the incidence and severity of illness in developed countries. However, there is a shortage of cases about CDI occurring in Brazil, since there are only a few published studies. The study aimed to present the bibliographic review of epidemiology of *Clostridium difficile* infections in children in Brazil. Bibliographic review of articles published in Brazil in the period 1988 to 2019 addressing the theme: incidence of *Clostridium difficile* infections in children. The research was carried out through the Lilacs, Pubmed and Scielo platforms. Only five articles on *C. difficile* infection in children in Brazil were found. They belong to the states of Rio de Janeiro and São Paulo. On 1988 in Rio de Janeiro, 175 children were analyzed, of which 40 (22,9%) were positive for *C. difficile*. In 2003, in São Paulo, 181 diarrhea samples were collected from children admitted to three hospitals, in which only 10 (5,5%) positive to *C. difficile*. In 2003, 210 children were investigated in Rio de Janeiro, of which 14 (6,7%) strains of *C. difficile* identified. In 2007, was published by a group of researchers from Rio de Janeiro who obtained seven new ribotypes of *C. difficile* still unknown worldwide. The most recent study on *C. difficile* infections in children in Brazil was published in 2016, conducted a cross-sectional study to compare intestinal microbiota in impoverished children (100) versus high socioeconomic (30) children in the state of São Paulo. *S. aureus* (90% vs. 48%) and *C. difficile* (100% vs. 43%) were more commonly found in private school children than in impoverished children. No data from other Brazilian states were found. The comparison of CDI in epidemiology among countries is challenging due to comprehensive sampling and testing approaches, for this reason demonstrates that in the more developed countries such as the United States, Canada and Europe, research related to this pathogen is well studied and identified, while in the underdeveloped countries still lacks research. This review needs to understand the epidemiological situation of this infection in children in Brazil, in order to provide a better understanding of the severity, recurrence and resistance of CDI in the pediatric age group.

Keywords: *Clostridium difficile*, Children, Epidemiology, Brazil

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