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MICROBIAL COLONIZATION OF NEBULIZERS USED BY ASTHMATIC CHILDREN

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Objective:To investigate microbial contamination of nebulizers used at home by asthmatic children and their parents' cleaning and maitenance routines.
Methods:The nebulizer equipment used at home by 39 asthmatic children was examined.Swabs taken from the inner surface of the reservoir cups, face masks and filters were cultured.Results were recorded as mean number of colony-forming units per cultured surface.Parents were interviwed regarding their cleaning and disinfection routines.
Results: Twenty-six resrvoir cups(66.7%), 24 face masks(61.5%),and 18 ffilters(78.3%)were found to be contaminated.Pseudomonas spp were isolated from 17 reservoir cups(43.6%)and 12 face masks(30.8%),and Staphylococcus aureus from 2(5.1%)face masks.None of the parents knew nebulizer has a filter and that it requires periodic cleaning or changing;only 8 of the parents(20.5%)received maitenance instruction from the medical staff,and only 48.7% cleaned the nebulizer equipment after each use.
Conclusion:Home nebulizers are frequently contaminated with microorganisms.We recommend that nebulizers be washed after each use and air-blown dry.To ensure compliance, clinicians should offer oral and written instruction to parents concerning cleaning and maitenance procedures,followed by a periodic reminder.