Variations in daycare center fungal communities

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Video Byte

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Abstract

Children in daycare centers are exposed to various bacteria and fungi. Exposure to certain indoor fungi can lead to adverse health effects, but the extent to which the fungal community, or mycobiome, affects children in daycares remains unclear. To learn more, a recent study investigated the indoor mycobiomes of two daycare centers in Norway over the course of a year. DNA metabarcoding of dust samples from the daycares revealed that less-used rooms had fungal communities similar to the outdoor mycobiome, which were markedly different from the communities in the main rooms. The less-used rooms tended to have more Basidiomycota species, while the main rooms had more Ascomycota species. The indoor mycobiome composition was also strongly affected by the outdoor climate, exhibiting clear seasonality. In particular, characteristic outdoor fungi in the orders Agaricales and Polyporales were more prevalent in the daycares during summer and fall, while fungi in the orders Saccharomycetales and Capnodiales, which include yeasts, molds, and some pathogens, prevailed in winter and spring. Although larger studies are needed, the results show that the indoor mycobiomes in daycares are influenced by both occupancy and the outdoor environment and suggest that the effects of season should be considered in related studies and air quality evaluations.