

- Indoor allergens in asthma

Hossein Esmaeilzadeh

Associate Prof. of Allergy and Clinical Immunology, Shiraz University of Medical Sciences, Shiraz, Iran

Indoor allergens are of particular importance and principally include house dust mites, pets such as dogs and cats, pests such as cockroach and rodents, and molds.

The relative importance of these different allergens varies based on different environmental factors depending on geographic, climatic, socioeconomic, and housing conditions.

The measurement of indoor allergen levels in dust and air samples has allowed for the determination of risk levels associated with the development of sensitization and symptomology.

Understanding the relationship between indoor allergens and asthma outcomes is a constantly evolving study of timing, location, and amount of exposure.

Recent data continue to demonstrate that early life sensitization to indoor allergens is a predictor of asthma development later in life.

Furthermore, avoidance of exposure to these allergens continues to be important especially given that the vast majority of children with asthma are sensitized to at least one indoor allergen

Exposure to increased levels of indoor mold in childhood has been associated with asthma development and exacerbation of current asthma; however, emerging evidence suggests that early exposure to higher fungal diversity may actually be protective for asthma development.

Recent evidence reminds us that children are exposed to clinically important levels of indoor allergens in locations away from their home, such as schools and daycare centers

Studies indicate that more than 80% of school age children with asthma are sensitized to at least one indoor allergen and that allergic sensitization is a strong predictor of disease persistence in later life

children hospitalized for asthma, 91% were found to be sensitized to at least one indoor allergen

while pollen sensitization is strongly associated with the development of rhinitis, indoor allergen sensitization was more associated with asthma.

The timing of sensitization is also an important factor as a recent study demonstrated that aeroallergen sensitization at younger ages was associated with an increased risk of asthma in later childhood

children with asthma who were sensitized and exposed to high levels of cockroach and mouse allergen had increased asthma morbidity

AWAY FROM HOME: EXPOSURE TO INDOOR ALLERGENS IN OTHER CHILDHOOD SETTINGS, SUCH AS SCHOOL AND DAYCARE CENTERS

For younger children, exposure to dust mites and molds in day care centers was associated with wheezing.

Likewise, researchers in Denmark found that high classroom dampness was associated with increased wheezing and decreased spirometry in exposed students.

Finally, mold exposure in school classrooms was shown to be significantly associated with current asthma symptoms and asthma symptoms that improved over holidays and weekends when the students were out of school



Thank you