

Il controllo ambientale

Lydia Pescollderungg

Dipartimento di Pediatria - Ospedale Regionale di Bolzano

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PREVENTION CATEGORIES

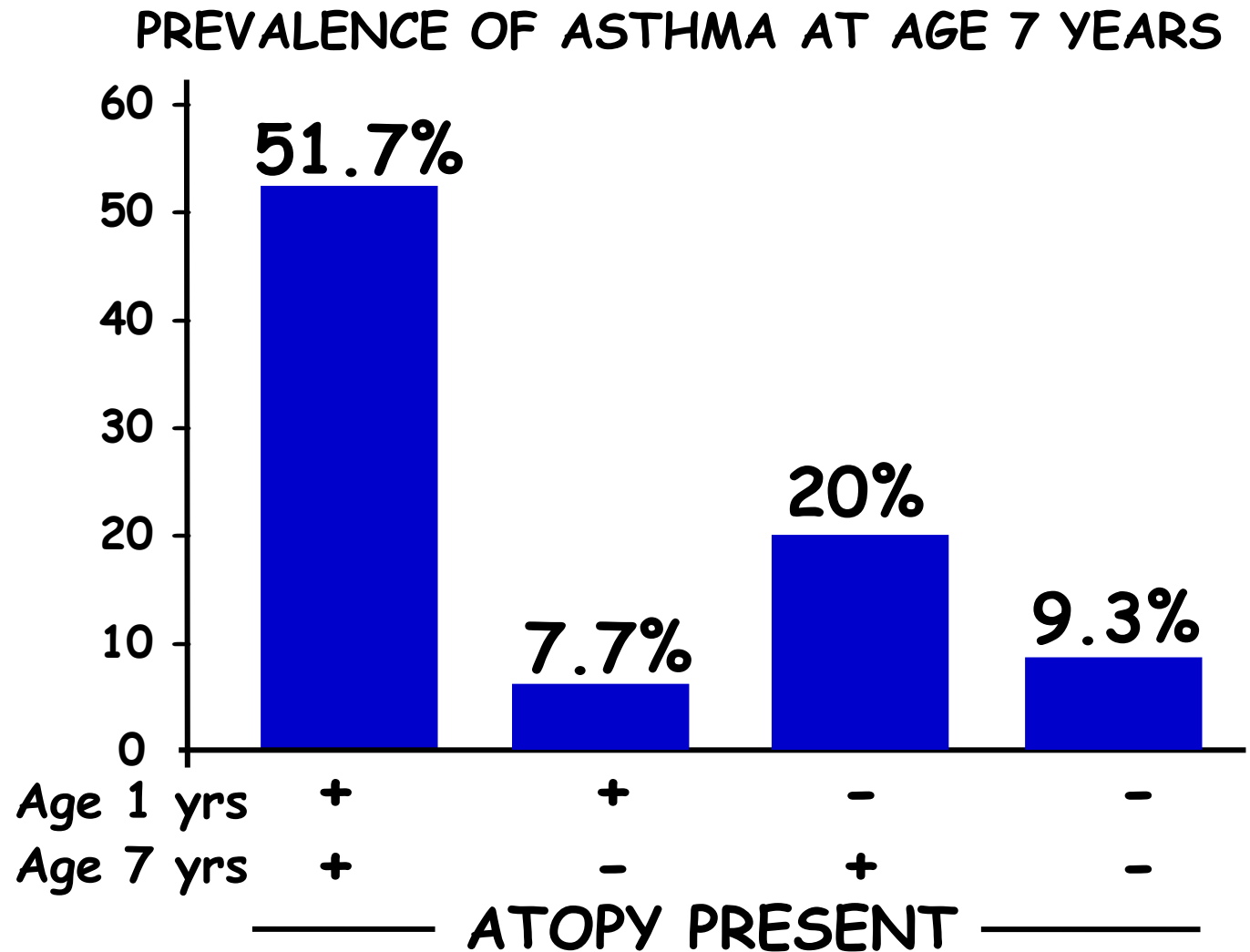
Prevention is a term that covers a wide range of objectives with regard to disease.

- 1) **PRIMARY PREVENTION** - aiming to completely avoid the disease.
- 2) **SECONDARY PREVENTION** - aiming to detect and cure the disease before symptoms occur.
- 3) **TERTIARY PREVENTION** - aiming to minimize morbidity for those who already have the disease.

ATOPY IN EARLY LIFE AND EFFECT OF A PRIMARY PREVENTION PROGRAM FOR ASTHMA IN A HIGH-RISK COHORT.

Chan-Yeung *JACI* 2007; 120: 1221

- ✓ Infants with at least 1 first-degree relative with asthma or 2 first-degree relatives with other IgE-mediated allergic diseases.
- ✓ Intervention group (N=279) or the control group (N=266) before the child's birth.



SECONDARY PREVENTION

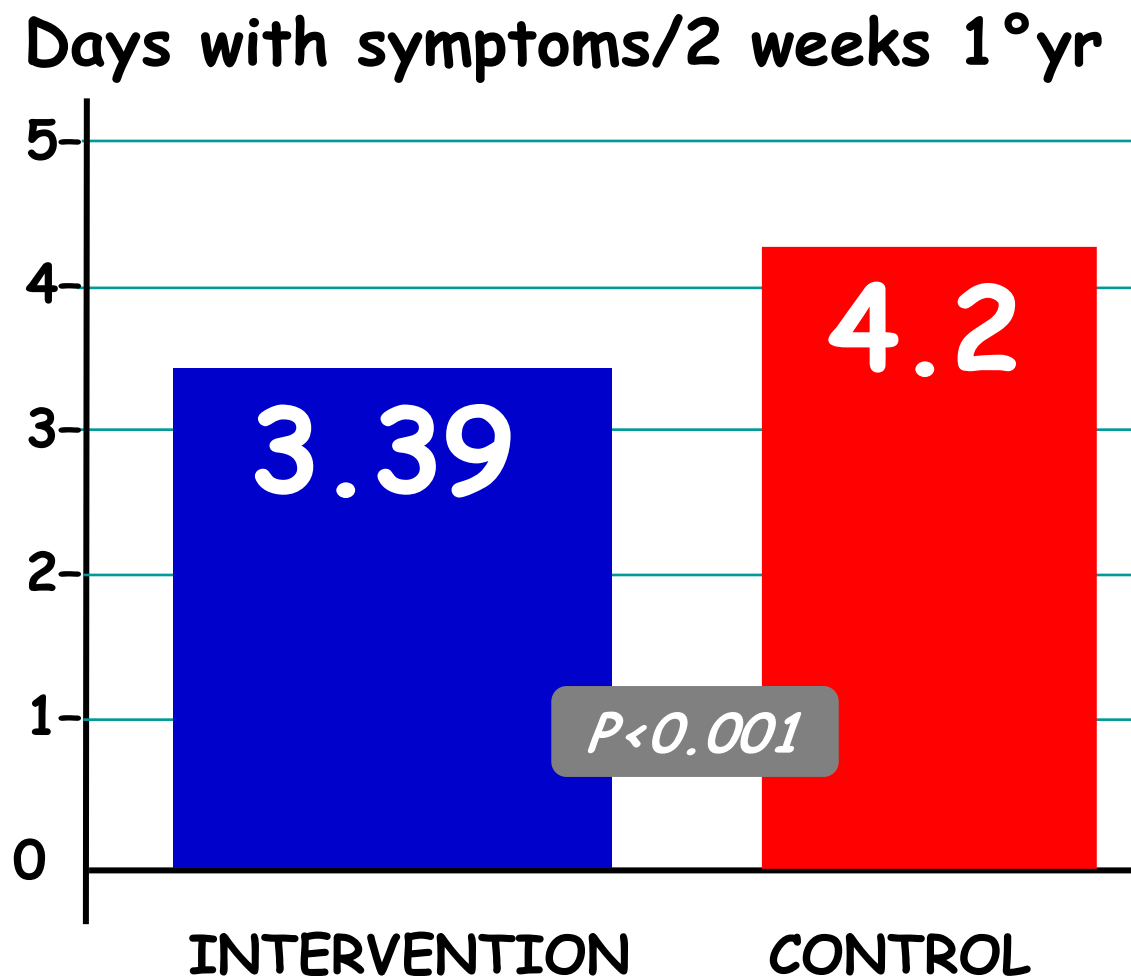
- 1) Treat atopic eczema with allergen avoidance or systemic pharmacotherapy to prevent respiratory allergy;
- 2) Treat allergic rhinitis to reduce the risk of development of asthma;

SECONDARY PREVENTION

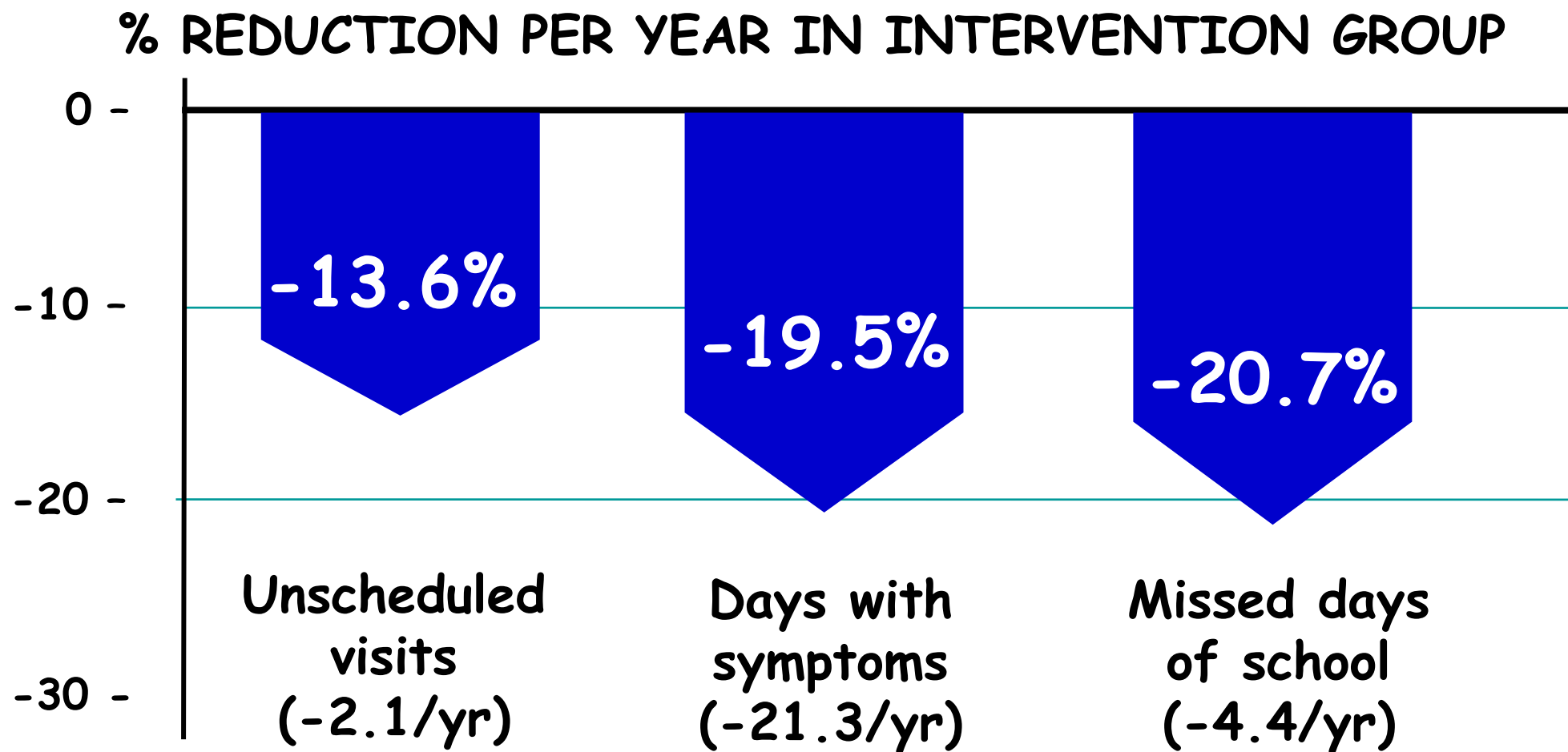
- 3) In young children already sensitized to outdoor allergens specific indoor exposure should be reduced or abolished to prevent onset of new sensitization;
- 4) Give advice to the atopic prone children to avoid future exposure to occupational allergens.

Results of a Home-Based Environmental Intervention among Urban Children with Asthma *Morgan NEJM 2004;351:1068*

- 937 ch (5-11 yrs)
- Controls or Intervention groups:
 - covers
 - high efficiency vacuum cleaner
 - HEPA air purifier (to address multiple allergens)
- Education
- Follow-up 1-2 yrs



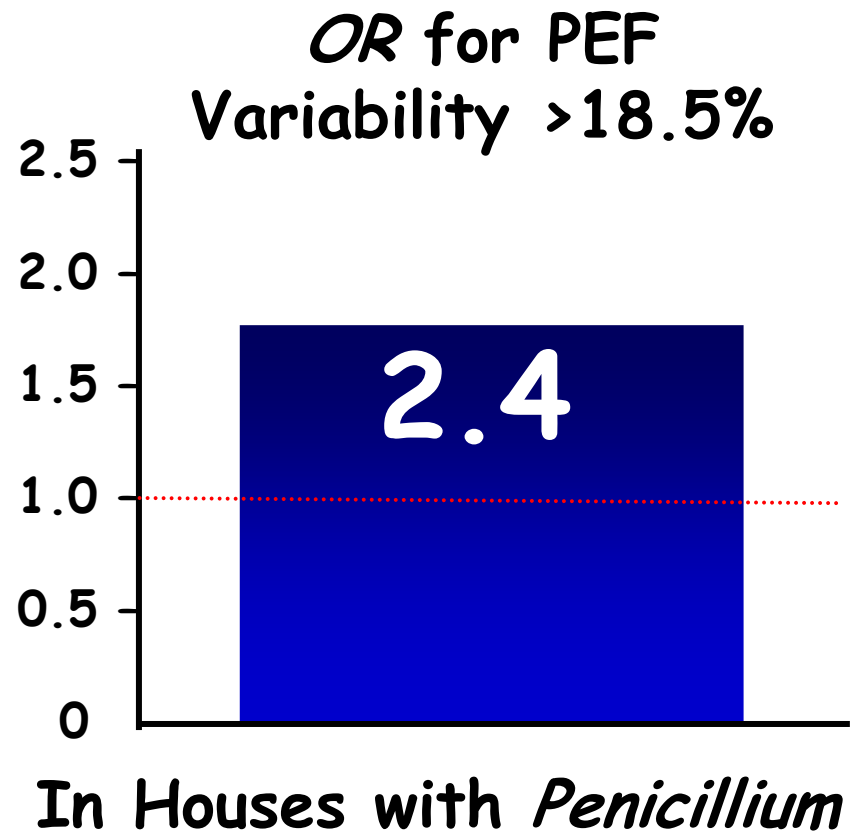
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Household airborne *Penicillium* associated with peak expiratory flow variability in asthmatic children

Bundy Ann Allergy Asthma Immunol 2009;103:26

- ✓ 225 asthmatic children (6-12 years).
- ✓ Peak expiratory flow recorded twice daily during a 2-week period.
- ✓ In-home airborne mold concentrations.

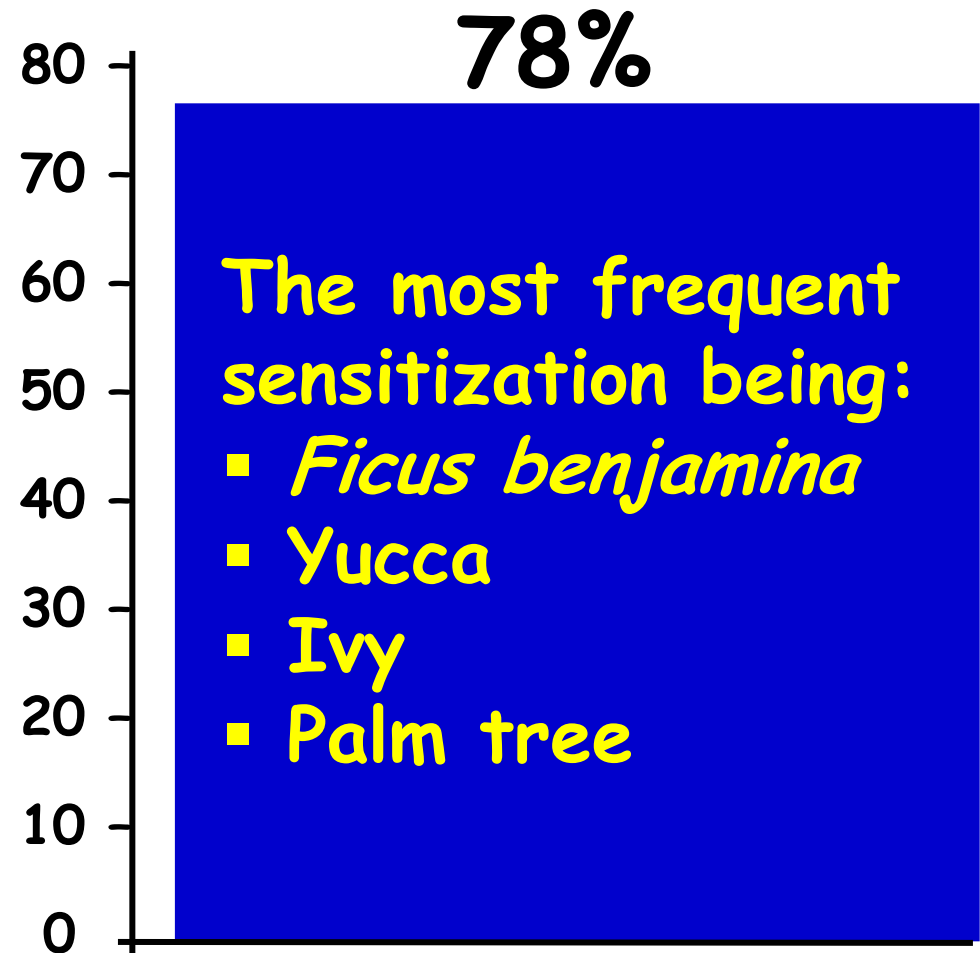


HIGH INCIDENCE OF SENSITIZATION TO ORNAMENTAL PLANTS IN ALLERGIC RHINITIS

Mahillon Allergy 2006; 61: 1138

- ✓ 59 patients with allergic rhinitis
- ✓ SPT using both the leafs of their own plant and commercial extracts of the most frequent airborne allergens
- ✓ A control group of 15 healthy subjects was tested with the same allergens

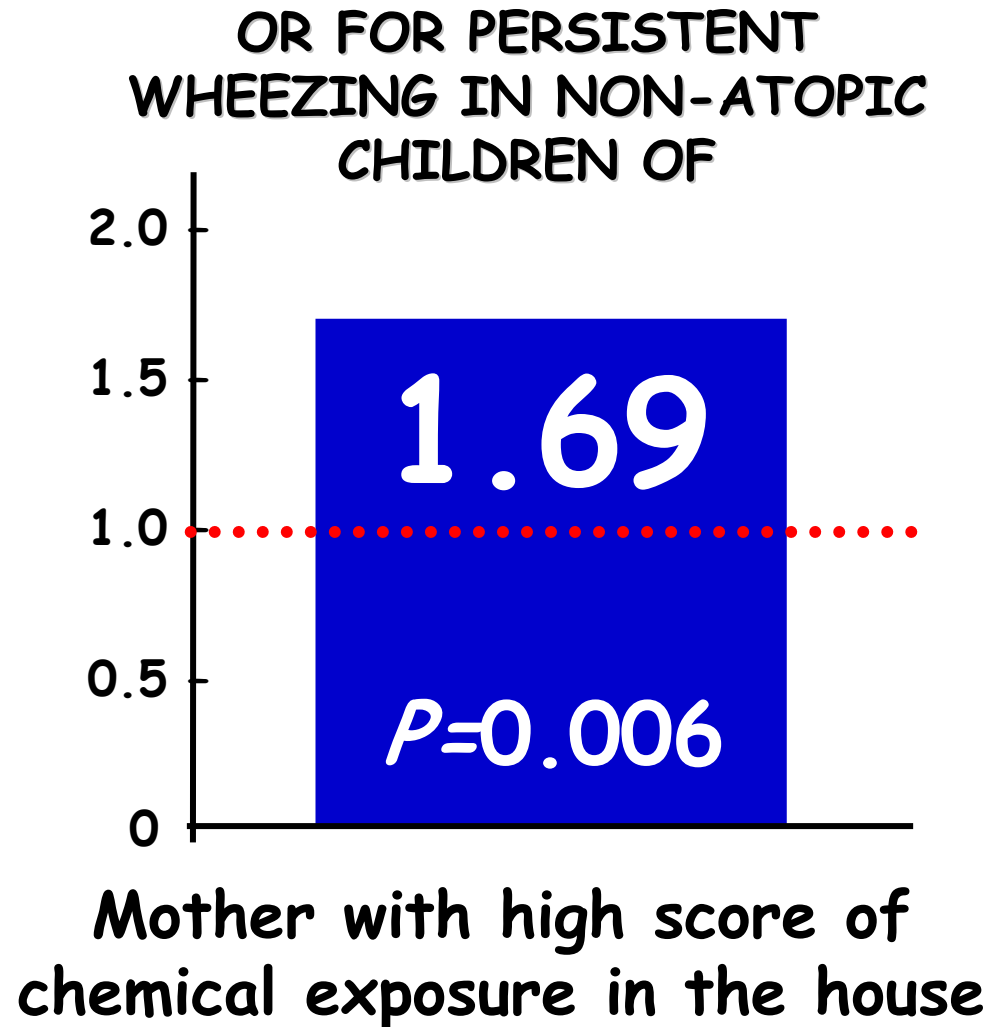
% patients reacting to the leafs of their own plant



HOUSEHOLD CHEMICALS, PERSISTENT WHEEZING AND LUNG FUNCTION: EFFECT MODIFICATION BY ATOPY?

Henderson Eur Respir J 2008; 31: 547

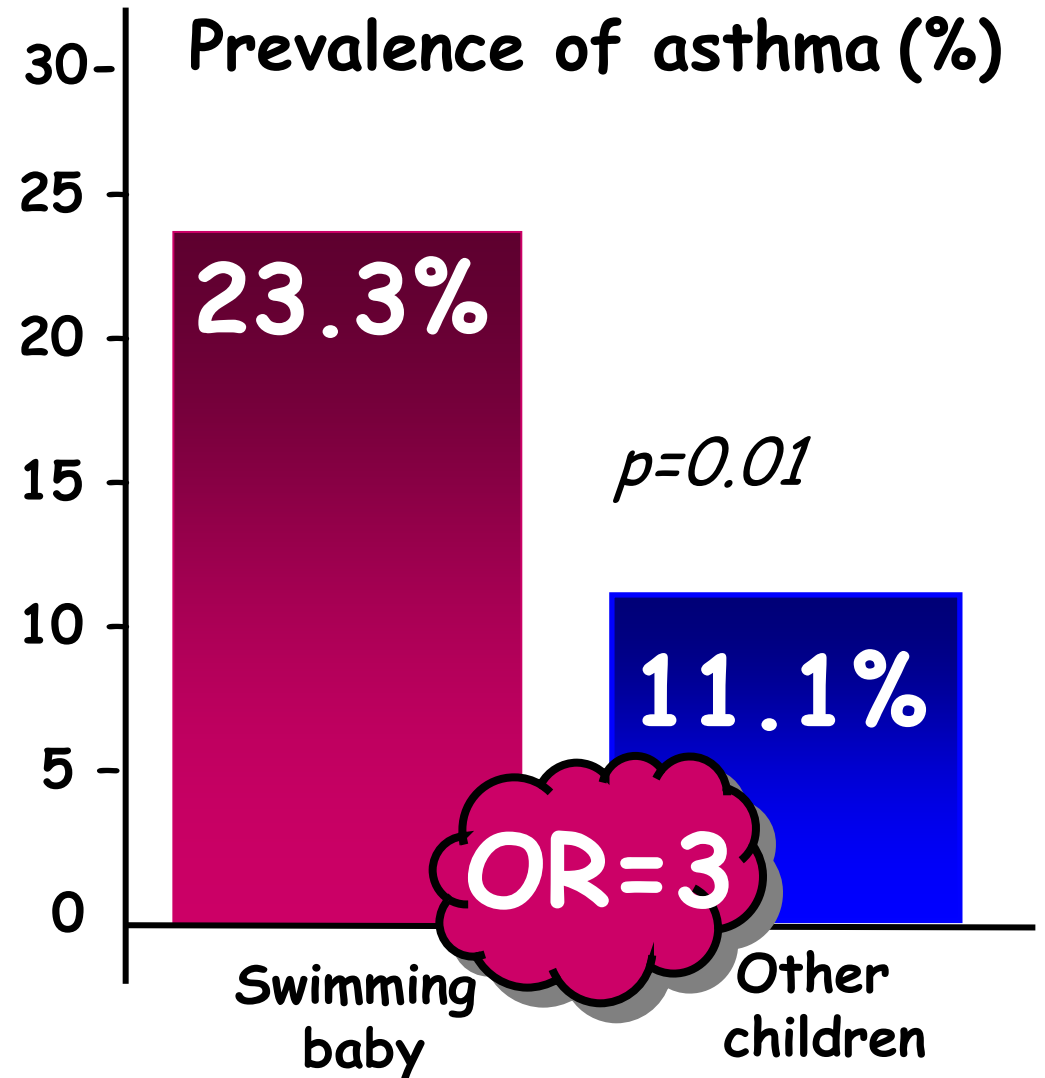
- ✓ Avon parents and children, a cohort study.
- ✓ Maternal household chemical exposure score.
- ✓ Lung function at age 8.5 yrs.



RESPIRATORY HEALTH AND BABY SWIMMING

Bernard A. Arch Dis Child. 2006;91: 620

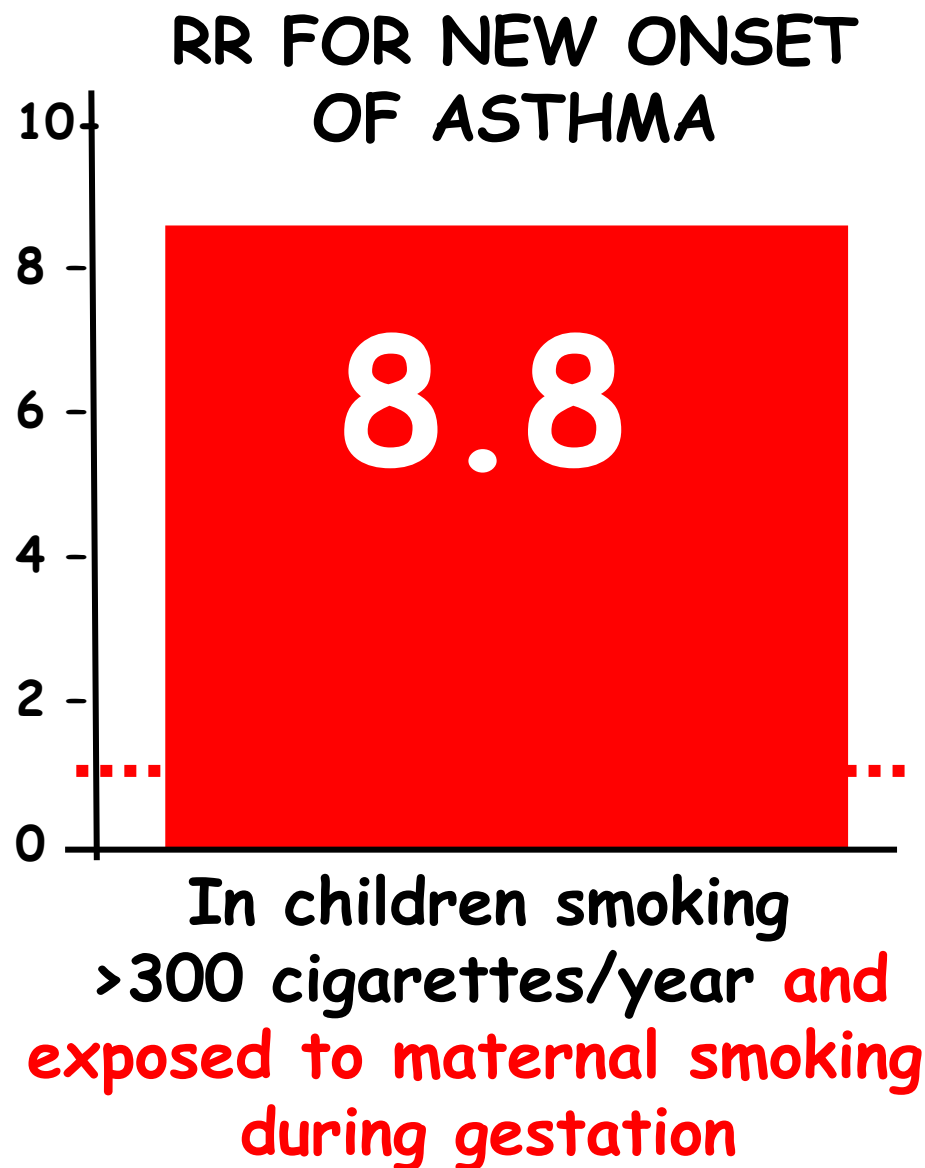
- ✓ 341 schoolchildren aged 10-13 years.
- ✓ 43 ch. a baby swimming programme before the age of 2 years.
- ✓ Levels of chlorine in the swimming pool were within recommended limits (below 1.5 and 2 mg/l).



REGULAR SMOKING AND ASTHMA INCIDENCE IN ADOLESCENTS

Gilliland AJRCCM 2006; 174: 1094

- ✓ 2,609 children with no lifetime history of asthma or wheezing
- ✓ Followed annually in schools
- ✓ Regular smoking was defined as smoking at least seven cigarettes per day or 300 cigarettes in the year
- ✓ New cases of physician-diagnosed asthma

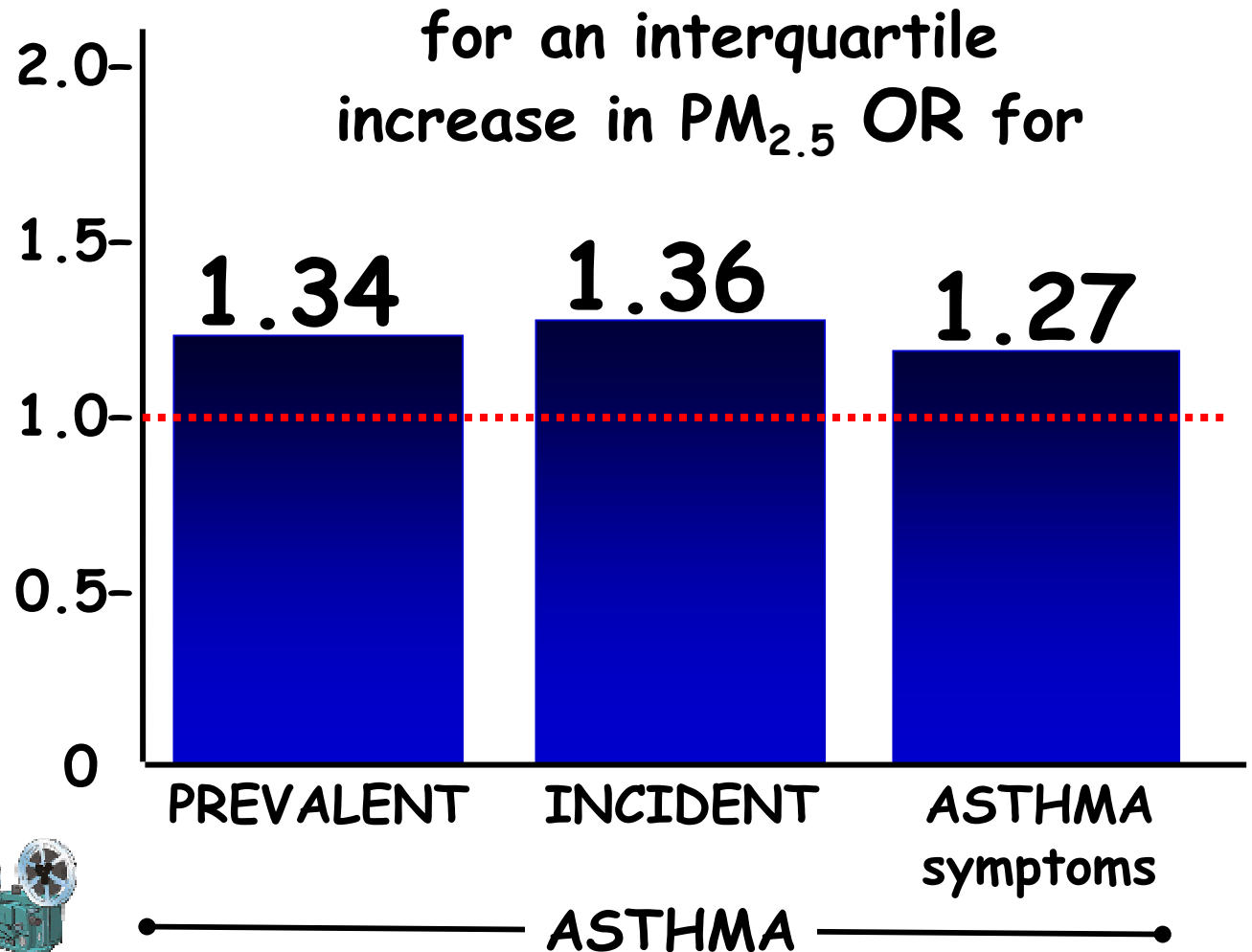



Traffic-related Air Pollution and the Development of Asthma and Allergies during the First 8 Years of Life

Gehring AJRCCM 2010;181:596-603



- ✓ Prospective birth cohort (n=3,863)
- ✓ 8-year-follow-up



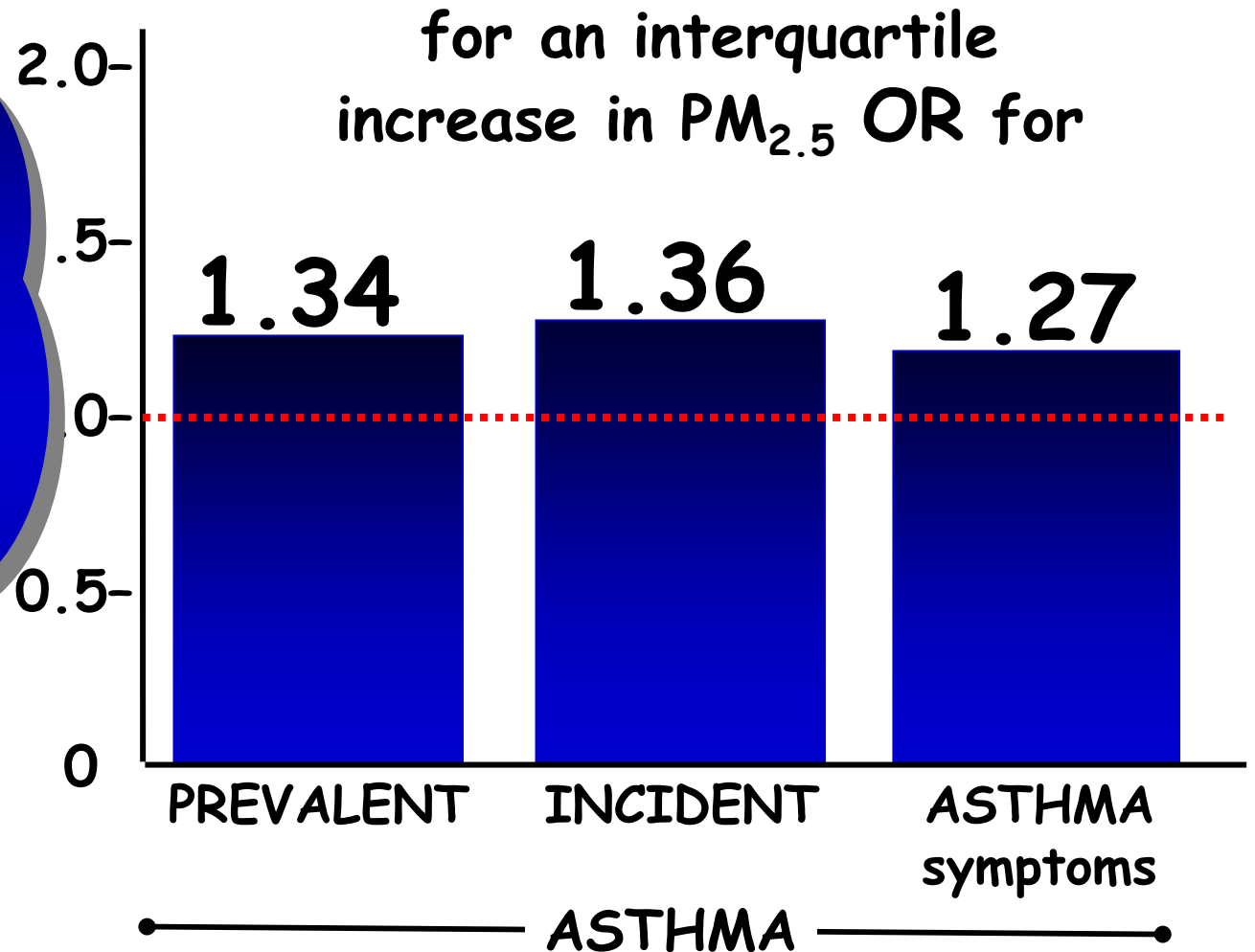
prevalenza = 

incidenza = 

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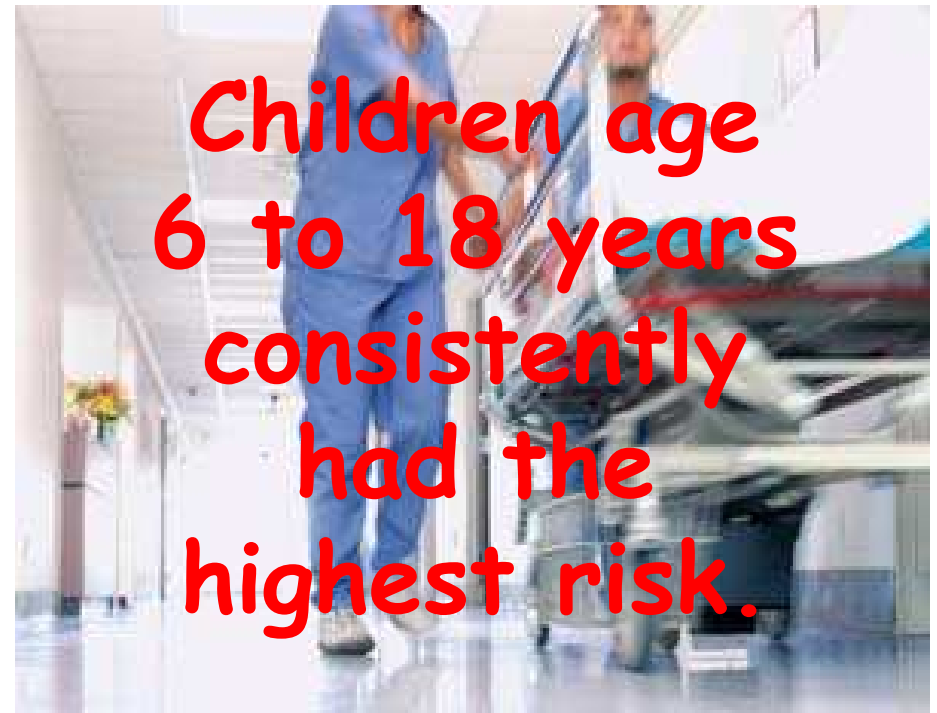
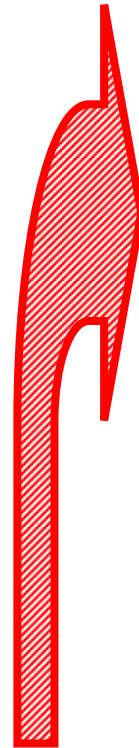
Exposure to traffic-related air pollution may cause asthma in children.



Age-related association of fine particles and ozone with severe acute asthma in New York City

Silverman JACI 2010;125:367

- ✓ 6008 asthma ICU admissions and 69,375 general (non-ICU) asthma admissions in 4 age groups (<6, 6-18, 19-49, and 50+ years) in 74 New York City hospitals for the months April to August from 1999 to 2006.
- ✓ Risks were estimated for interquartile range increases in pollutants.



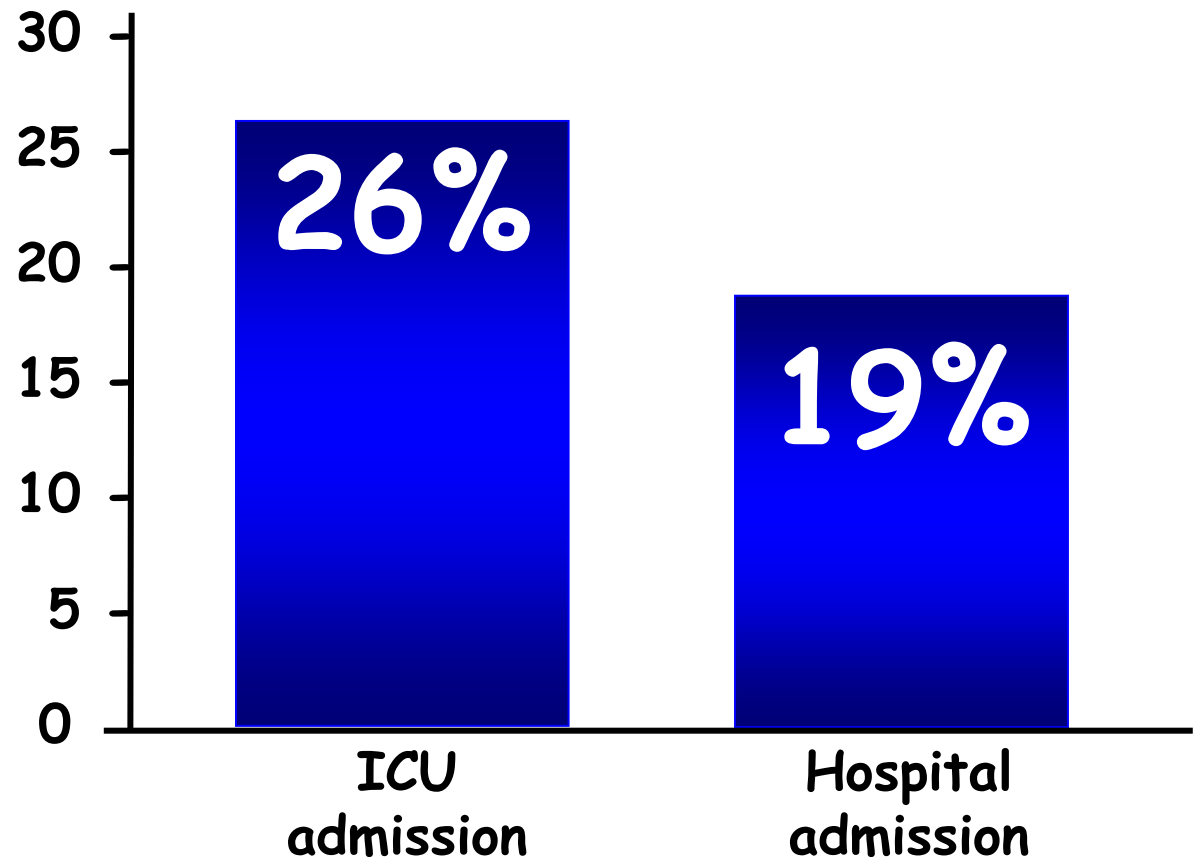
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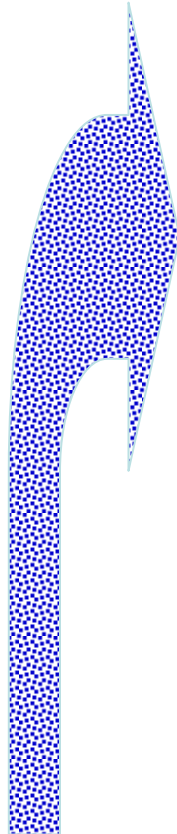
for each $12\mu\text{g}/\text{m}^3$ increase in $\text{PM}_{2.5}$
% increase in children 6-18 years in



A Randomized Controlled Trial of Asthma Self-management Support Comparing Clinic-Based Nurses and In-Home Community Health Workers

Krieger Arch Pediatr Adolesc Med. 2009;163(2):141

- ✓ 309 children (3-13 yrs) with asthma
- ✓ All participants received nurse provided asthma education
- ✓ Some participants also received home environmental assessments
- ✓ Follow-up: 1yr



Community health workers:

- 1) fit allergen-impermeable bedding encasements on the children's beds, and
- 2) gave participants a low-emission vacuum
- 3) a high quality doormat,
- 4) a cleaning kit, and
- 5) plastic medication boxes.

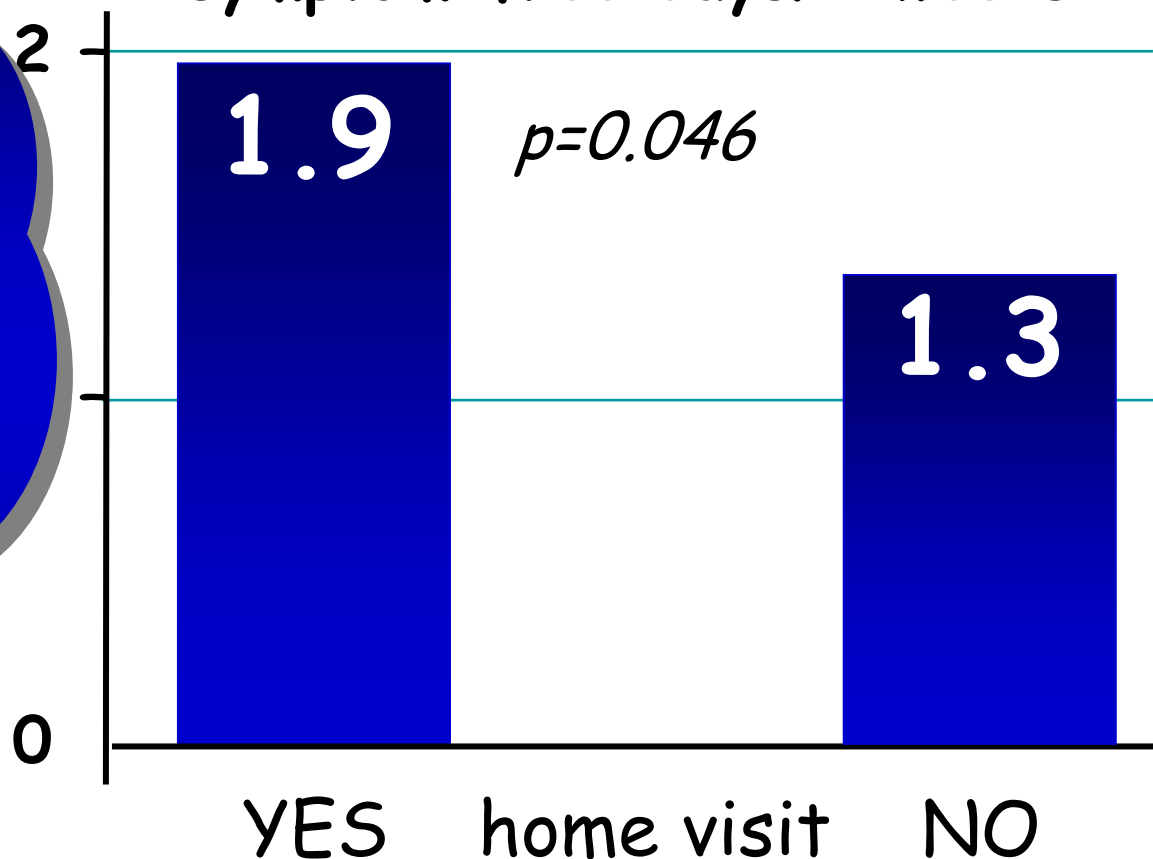
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✓ 30
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✓
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asse
✓ Follow p.

The number of symptom-free days increased by 0.94 days per 2 weeks or 24.4 days per year in the home visit group

Mean increase in number of symptom-free days/2 weeks



Grazie dell'attenzione
lydia.pescolliderungg@asbz.it

