



## 6<sup>th</sup> Jack Pepys Workshop

### Asthma in the Workplace

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## Indoor occupational risk-factor in non-industrial settings and work-related asthma. A systematic review

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**Aim:** to review systematically studies linking work-related asthma and respiratory symptoms with indoor occupational risk-factor in non-industrial settings.

- using the following search phrase: *(health effect\* OR bronchial hyperreactivity OR work-related asthma OR occupational asthma) AND (damp OR indoor OR cleaning product\* OR volatile organic compound\* OR confined work environment OR indoor allergens OR hospital OR building\* OR furniture\* OR occupational indoor exposure OR indoor pollution\*)*
- considering only English language and human adults beings studies



Subjects at risk of work related asthma, respiratory symptoms and bronchial hyperreactivity, related to indoor environments were mainly:

- Cleaners
- health-care workers
- office workers
- school and swimming pool workers
- hairdressers and housewives

Risk factors associated with work related asthma, respiratory symptoms or bronchial hyperreactivity were:

- cleaning agents, disinfectants, volatile organic compounds (VOCs)
- NO, NO<sub>2</sub>, SO<sub>2</sub>, H<sub>2</sub>S
- solvents, glutaraldehyde, second hand tobacco smoke, isocyanates, PM<sub>2.5</sub> and PM<sub>10</sub>
- dampness , moulds and fungi → 19 studies
- latex, rat epithelium, enzymes, bacteria and cockroaches



- Diagnosis of work-related asthma or symptoms due to work exposure to dampness and moulds was made mainly by questionnaire
- Spirometry, BHR, and PEF monitoring were assessed in a few studies
- Sensitization (SPT or Specific IgE) to moulds in occupational studies are less frequently investigated
- In the studies reported a positive association the odds ratios or RR ranged from 1.01 to 11.6
- Environmental monitoring was frequently not available



Work disability was associated with asthma in relation to workplace dampness *(Karvala 2014)*

*Moulds exposure → not only work related asthma but a risk factor for rhinitis, rhinosinusitis, hypersensitivity pneumonitis*

*(Baxi 2016)*

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**Authority**



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