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, NO2, SO2, H2S
- Solvents, glutaraldehyde, second hand tobacco smoke, isocyanates, PM2.5 and PM10
- Dampness, moulds and fungi
- Latex, rat epithelium, enzymes, bacteria and cockroaches

70 papers, studies on adults from 2002 to 2015

19 studies
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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