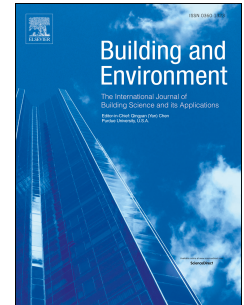


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# Home Dampness-related Exposures Increase the Risk of Common Colds among Preschool Children in Shanghai, China: Modified by Household Ventilation

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**Abstract:** Few studies have estimated the effects of dampness-related exposures and its interaction effects with poor household ventilation on common colds of preschool children. During April 2011- April 2012, we conducted a cross-sectional survey on home environment and childhood health and collected 13,335 parents-reported questionnaires of 4-6 year-old children in Shanghai, China. In this paper, we investigated associations between the incidence and duration of common colds among these children during the past 12 months before the survey and frequency of opening windows, as well as household dampness-related exposures (indicated by six dampness indicators). Significantly higher incidence ( $\geq 3$  times) and longer duration ( $\geq 2$  weeks) of common cold were found among children with than without these dampness exposures (p-value  $< 0.01$  for mold spots and p-value  $< 0.001$  for all other indicators). The number of dampness-related indicators had a positive and strong dose-response relationship with common colds (p-trend  $< 0.01$ ). Low frequency of ventilation was also a risk factor for children common colds. After adjusted for the potential confounders in the multiple logistic regression analyses, all dampness-related indicators were significantly associated with the increased odds of common colds and the highest odds ratios was 1.21 (95% CI: 1.16 - 1.27). We also found that dampness-related exposures and household ventilation habits (p-value for interaction  $< 0.001$ ) had a strong interaction effect on the incidence and duration of common cold. The stratified analysis of ventilation condition displays that the influence of dampness-related exposures has been modified by ventilation. Therefore, good household ventilation habits may have an effect of modification for dampness-related

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