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| **Identifying risk and preventive factors for childhood Allergic Rhinitis: a longitudinal cohort study** |
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| **Introduction:**  Uncontrolled childhood allergic rhinitis reduces quality of life. This study aimed to identify modifiable early life factors to assist in preventing and reducing the public health burden of allergic rhinitis on Australian children.  **Methods:**  Data from the Breathing for Life Trial (BLT) cohort was used, all mothers had asthma. Validated questionnaires collected exposure data at 12-months (n=726) and outcome data at four-years (n=260): *allergic rhinitis* *symptoms* (runny nose without a cold), *any hayfever,* and *persistent* *allergic rhinitis* (symptoms reported at 12 months and 4 years). Skin prick tests were also performed at 4 years to determine airborne allergen sensitisation (n=155). Potential exposures included smoking, breastfeeding, respiratory infections, cooking source, heating source, traffic density, childcare attendance, pet ownership. Multivariate logistic regression odds ratios and prevalence among cases were used to calculate population attributable fractions (PAF) and prevented fractions for the population (PFP) for significant associations. **Results:**  At 4 years of age, the prevalence of allergic rhinitis ranged from 21.4% (*persistent*) to 41% (*symptoms*). Having bronchiolitis before 12 months accounted for 22.8% of *symptoms*, 19.2% of *hayfever* and 27.8% of *persistent allergic rhinitis*. Exclusive breastfeeding for less than 3 months accounted for 26.1% of *persistent allergic rhinitis*. Conversely, 30% of *hayfever* in the control group could have been prevented by having a dog in the first 12 months of life, and 13.3% by breastfeeding 4-6 months. Further, 25.2% of *persistent allergic rhinitis* could have been prevented by having a cat, and 31.1% by childcare attendance. No significant associations were found for smoking, traffic density, cooking or heating types, nor for any risk or preventive factors of *airborne allergen sensitisation*.  **Conclusion:**  These findings indicate interventions to prevent allergic rhinitis would be best directed towards reducing transmission of respiratory infections, improving breastfeeding rates and encouraging pet ownership in the first year of life.  **Grant Support:**  NHMRC, John Hunter Hospital Charitable Trust |