

Association of atopic multimorbidity with childhood cat exposure, farm living, and rural residence: results of the Lifelines Cohort Study

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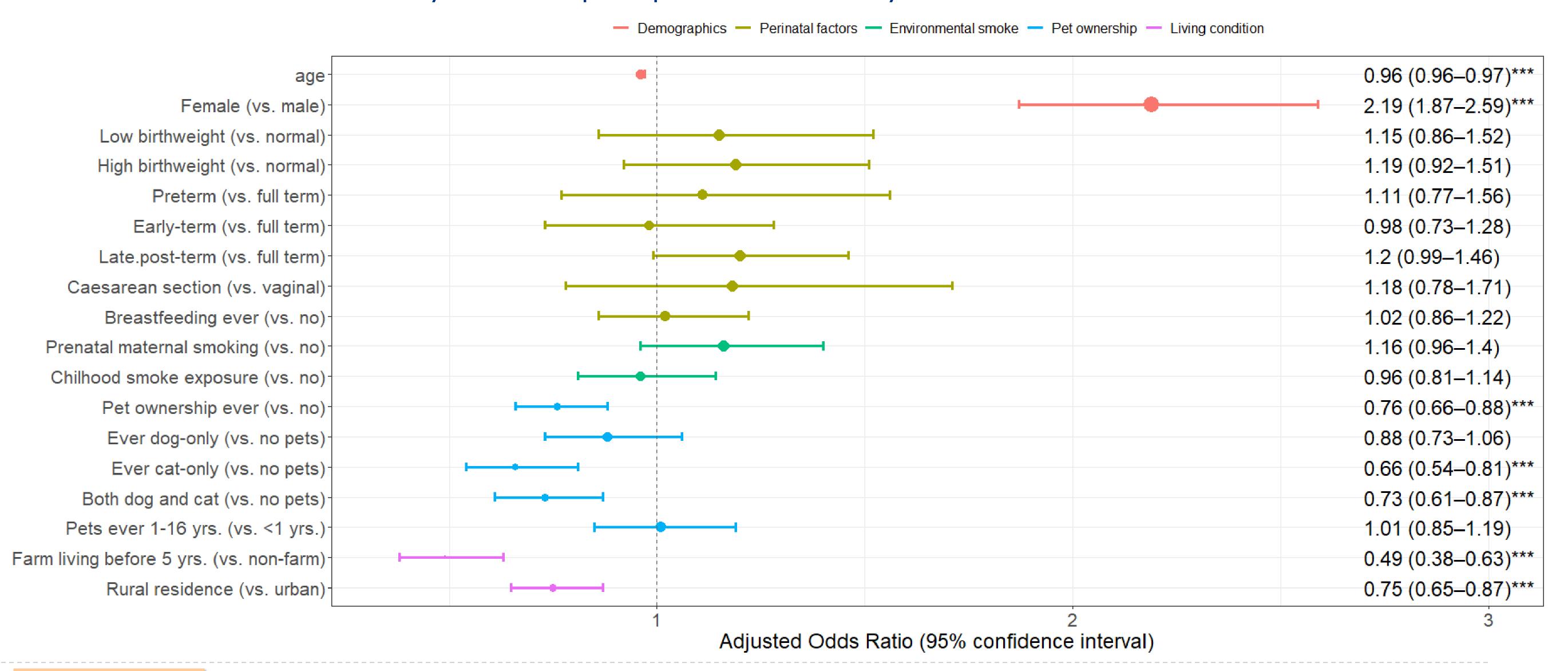
Rationale and objective

- Atopic multimorbidity is often seen in patients with atopic diseases.
- Hygiene hypothesis suggests that exposure to various environmental agents during early childhood may protect against atopic disease development.
- Research on childhood environmental exposure and atopic multimorbidity shows limited and inconsistent findings.
- To investigate the association between multiple childhood environmental exposures and atopic multimorbidity.

Methods Study population Childhood environmental exposures * lifelines **Urbanity Birth weight Atopic diseases** (based on address density) Collected in 2020 Collected between 2006-2013 **Gestational** Farm-living age before age 5 **Atopic Dermatitis (AD) Food Allergy Asthma Allergic Rhinitis** Pet ownership **Delivery** before age 16 mode (ever, type, age) **Atopic multimorbidity**: AD accompanied by at least two other atopic diseases Smoke **Breastfeeding** exposure in childhood **Prenatal** Participants without Participants with maternal smoking atopic diseases atopic multimorbidity (N = 27,939, 97.0%)(N = 852, 3.0%)*Retrospectively investigated during 2006-2013

Results

- Approximately 3.0% of individuals reported atopic multimorbidity in lifetime.
- Childhood pet ownership, especially owning a cat only, and farm or rural residence, were negatively associated with atopic multimorbidity.
- Females were more likely to develop atopic multimorbidity than males.



Conclusion

- This study found a 3% lifetime prevalence of atopic multimorbidity in the Dutch general population.
- Childhood exposure to specific environmental factors, such as cat ownership, farm living, and rural residence, may protect against atopic multimorbidity and guide the prevention of atopic diseases.