

## Familial Risk of Appendicitis: A Nationwide Population Study

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**Objective:** To investigate the familial risk of appendicitis in the general population.

**Study design:** A nationwide, cross-sectional study consisting of 24 349 599 Taiwan National Health Insurance beneficiaries in 2015 was conducted. Among them, 788 042 individuals had at least 1 first-degree relative with appendicitis. The familial relative risks (RRs) of appendicitis and familial transmission were estimated.

**Results:** The overall RR (95% CI) of appendicitis in individuals with any affected first-degree relatives was 1.67 (1.64-1.71) compared with the general population. The RRs for individuals with an affected twin, sibling, offspring and parent were 3.40 (2.66-4.35), 1.98 (1.92-2.04), 1.55 (1.51-1.59) and 1.54 (1.50-1.58), respectively. The RRs for individuals with 1, 2, 3 or more affected first-degree relatives were 1.65 (1.62-1.68), 2.63 (2.37-2.91) and 6.70 (4.22-10.63), respectively. Furthermore, there was an age-dependent trend of the RRs, with the greatest RR in the youngest group. The estimated familial transmission (genetic plus shared environmental contribution to the total phenotypic variance of appendicitis) was 23.2%.

**Conclusion:** Individuals with a family history of appendicitis have an increased risk of appendicitis. This risk is age-dependent and related to the genetic distance and numbers of affected relatives.

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