

# Cough can run in family

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A family history of cough increases the risk of both the onset and persistence of cough, according to the Ph.D. study of Anne Lätti. One in two recent-onset coughers still reported the presence of a cough 12 months later. There were two different types of cough prolongation, continuous cough and recurrent cough, with completely different risk factors.

Cough is a prevalent worldwide health problem. The etiology of [cough](#) varies from the self-resolving common cold to life-threatening lung cancer, tuberculosis, pulmonary embolism and heart failure. Even if the underlying disease has a good prognosis, the energy expended and time lost due to cough decreases the patient's quality of life. In addition to causing inconvenience to patients, there are substantial health care expenses incurred in the assessment and treatment of cough.

A better knowledge about the prevalence of cough subtypes is essential in order to target the health care resources correctly. There are only a few [epidemiological studies](#) about cough prevalence and [risk factors](#) in which cough has been defined according to the latest guidelines i.e. into acute, subacute and chronic cough meaning a cough that has lasted less than three weeks, three to eight weeks and over eight weeks, respectively. There is a paucity of reliable data regarding the prevalence of acute or subacute cough because most published reports have focused on chronic cough. In the previous data, the global prevalence of chronic cough has varied extensively from as low as 1percent up to 12 percent, highlighting the need for more localized studies.

Previously, cough has been regarded as a symptom of an underlying disease e.g. asthma and investigators have tended to target that assumed underlying disease. Nowadays although chronic cough is considered as an independent disease, this has not received significant attention. The information available about the risk factors of chronic cough have been mainly gathered from selected patient populations treated in specialized cough clinics. Very little is known about risk factors, heredity and long-lasting consequences for chronic cough in the general population. Furthermore, effective therapy for chronic cough remains an unmet clinical need. If our understanding about chronic cough risk factors and mechanisms could be clarified, this would help in discovering new, more effective treatments for this disease.

The aim of the study was to define the prevalence, risk factors and prognosis of acute, subacute and chronic cough in a Finnish adult employee population.

In 2017, a comprehensive 80-item electronic questionnaire was sent to all public service employees in Kuopio and Jyväskylä. Nearly 3,700 employees with an average age of 46.6 years responded. The prevalence of chronic cough was 11.1 percent. Our study revealed several risk factors for chronic cough i.e. asthma, chronic rhinosinusitis and a family history of chronic cough. In addition, subacute cough shared several common risk factors with chronic cough. However, the risk factors for acute cough were somewhat different: i.e. allergy, family history of chronic cough and moisture damage exposure.

In 2018, a follow-up questionnaire was sent to subjects who had been experiencing a cough at the baseline and who had provided permission for follow-up. The predictors for prolongation of recent-onset cough i.e. cough that had lasted less than eight weeks, were first studied. To the best knowledge of the researchers, this topic has not been examined before. The aim was to identify those patients who have a high risk of cough prolongation. Early interventions targeted at these kinds of patients might prevent the prolongation of cough.

On the basis of the investigations, as many as 50 percent of recent-onset coughers still reported the presence of a cough 12 months later. There were two different types of cough prolongation with completely different risk factors. The risk factors for continuous cough included the presence of a cough trigger, BMI  $>25 \text{ kg}\cdot\text{m}^{-2}$  and gastro-oesophageal reflux disease. The risk factors for recurrent cough included wheezing, a family history of chronic cough and a cough duration for more than three weeks.

Factors predicting the persistence of chronic cough at the 12-month

follow-up were also investigated. Chronic cough had a strong tendency to persist even after one year as the cough was still present in 80 percent of subjects. The baseline factors predicting the persistence of cough at 12 months included gastro-oesophageal reflux disease, the presence of a chemical trigger and the duration of cough lasting more than one year.

This thesis demonstrated that chronic cough is common in a Finnish adult employee population. Subacute and chronic cough share mainly the same risk factors, which supports the subdivision of cough into two subclasses: acute (less than three weeks) and prolonged (more than three weeks). One new risk factor was revealed for both cough and prolongation of recent-onset cough i.e. a family history of chronic cough. Since the prognosis of chronic cough is poor, prevention of this discomforting disease is important. This study may help clinicians to identify those recent-onset coughers who are at high risk of developing a [chronic cough](#).

The doctoral dissertation of Anne Lätti, Lic Med, will be examined at the Faculty of Health Sciences. The Opponent in the public examination will be Docent Maritta Kilpeläinen of the University of Turku, and the Custos will be Professor Heikki Koskela of the University of Eastern Finland. The public examination will be held online on 18 June 2021, starting at 12 noon.

**More information:** Prevalence, Risk Factors and Prognosis of Acute, Subacute and Chronic Cough in a Finnish Adult Employee Population. [erepo.uef.fi/handle/123456789/25468](http://erepo.uef.fi/handle/123456789/25468)

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