

# Coughing Symptom Prevalance in the Adult Population in Trabzon, Turkey

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## Abstract

**Setting:** Coughing is the most common symptom encountered in the respiratory system diseases. But, there have been no data on coughing symptom prevalence in the Turkish population.

**Objective:** The aim of this study was to determine the prevalence of coughing symptoms in the adult population in Trabzon.

**Design:** A questionnaire was applied to 1,544 subjects by door to door survey method. They were between 18 and 94 years old. The sample group was randomly selected from the current list of city inhabitants recorded in health centers. coughing with a duration of at least 3 weeks was defined as chronic.

**Results:** The average ages were  $33,61 \pm 13,80$  years (mean  $\pm$  SE) in the male group and  $31,96 \pm 13,36$  in the female group.

**Key words:** *Coughing, Respiratory epidemiology, Respiratory symptoms*

The point prevalence of acute and chronic coughing were 25.25%, and 12.88%; whereas the periodic prevalence of acute and chronic coughing from February 1997 to February 1998 were 36.92% and 12.44% respectively. There was no significant difference between the male and female populations except for the periodic prevalence of acute coughing which was 30.34% for men and 45.40% for women ( $p < 0.0000001$ ). In smokers, the prevalences were higher than non-smokers except for the periodic prevalence of acute coughing.

**Conclusion:** Acute coughing was not able to be compared with the other studies, because of unavailability of such studies reporting prevalence. But, chronic coughing prevalence was similar to previous reports.

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## Introduction

Coughing is an important defence mechanism of the respiratory system. It removes excessive secretions and foreign materials from the respiratory tract and rarely seen in healthy people during daily activities. But, persistent and repeated cough usually have a clinical significance and it is one of the most common symptoms encountered in respiratory system diseases.

Coughing may be acute and chronic and the aetiology of chronic coughing is usually different from acute coughing. Definitive diagnosis needs a series of investigations including history, physical examination, and laboratory testing.

Data informing coughing epidemiology may be useful in planning local diagnostic and preventive protocols. There

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have been no data on coughing symptom prevalence in the Turkish population. The aim of this study was to determine the percentage and periodic prevalences of acute and chronic coughing symptoms in the adult population of Trabzon.

## Material and Method

A questionnaire was applied to 1,544 subjects with a male/female ratio of 870/674 by a door to door survey method. It was applied by intern students (members of the KTU Scientific Research Society) especially trained for this study and questionnaire forms were checked retrospectively by telephone. The individuals participating were between 18 and 94 years old. The sample group was randomly selected from the current list of city inhabitants recorded in health centres (primary health care) and a simple random sampling method was used at two stages. At the first stage, health centres and at the second stage individuals were selected randomly. Coughing with a duration of at least 3 weeks was defined as chronic.

The survey was conducted in February 1998. Selected individuals were asked whether he/she had a coughing symptom at most hours of day(s) in the previous 12 months and they were questioned about smoking habits by an advanced form of questionnaire recommended by the WHO (1).

Chi-square testing was used for all statistical analysis.

## Results

1,544 subjects (male/female ratio of 870/674) with a mean age of  $32.8 \pm 13.6$  years (mean SE) (33,61 13,80 years in male group and 31,96 13,36 in female group) were included in the study.

**Point prevalence:** The point prevalence of coughing

	Point prevalence (%)	Periodic prevalence (%)
Acute coughing	25.25	36.92
Chronic coughing	12.88	12.44
Total	38.14	49.35

was 38.14%. Acute coughing point prevalence was 25.25 % (14.63% in men and 10.62% in women) and chronic coughing point prevalence was 12.88 % (7.90% in men and 4.98% in women) (Table 1).

**Periodic prevalence:** A coughing symptom in the last twelve months was detected in 762 (49.4%) of the people participating in the study. According to sex, 56.0% of the women and 44.1% of men had coughing symptoms in the past year. The periodic prevalence of acute and chronic coughing from February 1997 to February 1998 were 36.92 % and 12.44 % respectively (Table 1). Chronic coughing periodic prevalence was 7.77% for men and 4.66% for women.

There was no significant difference between the male and female populations except for the periodic prevalence of acute coughing which was 17.09% for men and 19.81% for women ( $p < 0.0000001$ ).

The prevalence of coughing was higher in smokers than non-smokers except for the periodic prevalence of acute coughing. The distribution of coughing prevalence between smokers and non-smokers is presented in table 2.

	Point prevalence			Periodic prevalence		
	Smoker	Non-smoker	p	Smoker	Non-smoker	p
Acute coughing	30,04	20,64	<0,00005	36,89	36,94	>0,05
Chronic coughing	16,86	9,04	<0,000005	16,60	8,41	<0,000001

## Discussion

Respiratory symptoms limits the activity of the person and decreases daily performance. In a study of the children who missed more than five days of schooling, 43% had a coughing and wheeze and 33% had a coughing alone (2).

The common causes of acute and transient coughing are acute upper respiratory tract infections (common cold, acute sinusitis, etc.), pertussis, pneumonia and pulmonary embolism and it is unlikely to persist more than 3 weeks.

Chronic coughing is defined as a persistent or recurrent coughing exceeding three weeks' duration. The prevalence of chronic coughing is reported to



range from 10% to 23% for non-smokers and it is the fifth most common symptom in patients admitted to outpatient physicians (2-5). Postnasal drip syndrome is the most common cause of chronic coughing and it accounts for 41-87% of all patients with chronic coughing (4,6,7). It is followed by asthma and gastroesophageal reflux. Chronic bronchitis and bronchiectasis are the other less frequent causes of chronic coughing (8,9).

Trabzon is a coastal city not industrialised and it has a rich flora. It has a damp, rainy, mild climate. So, it is suitable for tuberculous bacilli, fungus, pollen, mite and contagious respiratory infections such as influenza. The prevalence of tuberculosis and annual risk of tuberculous infection is high in this region (10,11). On the other hand, the concentration of airborne allergens such as mites is high in this region (12). Despite these conditions, chronic coughing prevalence was found to be 12.44% in our study, not as high as expected.

We did not find no enough data about coughing symptom prevalence in the Turkish population in the literature. In a study made in Ankara, coughing symptom was detected as 24% and 7% in long term and short term garage workers respectively (13). In another study made in Trabzon for the detection of asthmatic symptom prevalence, night coughing prevalence was detected as 14.1% of the population (14). Saraçlar et al. reported in their study related to prevalence of self-reported asthma and respiratory symptoms that waking by an attack of coughing in the past year was detected as 22.6% in the surveyed population of Ankara (15).

In this study, we also found that coughing was more frequent in smokers. This is probably as a result of the direct irritative and toxic effects of smoke to the respiratory tract or the increasing effect of respiratory infections. It is known that the frequency and severity of respiratory infections increase in cigarette smokers (16,17).

It was concluded that 36.92 % of the population living in Trabzon experienced acute coughing in the last twelve months and, prevalence of chronic coughing

symptom was found to be similar to other studies. Our results will probably be more useful when studies related to coughing symptom prevalence from other geographical regions of Turkey are available.

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