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Assessment of Chronic Persistent Cough in the Community

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Abstract
To assess chronic persistent cough in the community. Two hundred eighty participants, aged 18-60 years were enrolled in this study. A Likert scale with ratings ranging from 1 (never) to 5 (always) was used to extract information about the physical, psychological and social effects of the cough in addition to demographic facts, the history of the cough, prior treatments and smoking history. Out of 280 subjects, males were 130 and females were 150. Duration of cough was 1-2 years in 102, 2-5 years in 98 and >5 years in 80. Severity was moderate in 56, severe in 134 and very severe in 90. The diagnosis was cough in 175 and asthma in 105. Smoking history was positive in 138 and negative in 147. The common symptoms were breathlessness in 130, wheeze in 110, feeling tired or drained in 56, disturbed sleep in 74 and sore throat in 162. Psychological effects were anger or frustration in 195, depressed in 42, upset in 36 and worry in 74 subjects. Social effects included limited going to cinema seen in 125, to restaurants in 46 and shopping in 165. Treatment sought was nasal sprays in 76, asthma inhalers in 94, anti- histamines in 28, oral steroids in 60 and antibiotics in 22 subjects. The difference was significant ($p<0.05$). A common symptom in the general population is a chronic cough. People with chronic cough experience a significant degree of morbidity, which leads to a high rate of healthcare utilization on the part of those affected.

INTRODUCTION

The most common symptom for which people seek medical attention is a cough. In the UK, sales of over-the-counter cough syrups alone are valued at up to £92.5 million, while in the US, they total $328 million[1,2]. Most cough episodes are brief and self-limiting, typically brought on by a viral upper respiratory tract infection., however, persistent coughing (greater than eight weeks) can occasionally occur a serious issue, with prevalence estimates ranging from 10-30%. Chronic cough would appear to be a substantial, curable clinical entity because it is linked to a considerable but reversible increase in morbidity that lowers quality of life[3,4].

Three common causes of chronic cough have been proposed: post-nasal drip, gastroesophageal reflux, and asthma[5]. Although the presence of post-nasal drip as a distinct clinical entity has been questioned, there is no doubt that the numerous syndromes of eosinophilic inflammation of the airways, such as cough variant asthma and eosinophilic bronchitis, may produce chronic cough[6]. For more than 25 years, gastro-oesophageal reflux has been acknowledged as a significant contributor to persistent cough; yet, reports of its causative relationship vary greatly in frequency. This difference reflects the challenges in verifying a clinically or scientifically supported link between a cough and a reflux incident[7,8]. We performed this study to assess chronic persistent cough in the community.

MATERIALS AND METHODS

After considering the utility of the study and obtaining approval from the ethical review committee, we selected two hundred eighty participants, aged 18 to 60 years. Patients' consent was obtained before starting the study.

Data such as name, age, etc. was recorded. A Likert scale with ratings ranging from 1 (never) to 5 (always) is used to extract information about the physical, psychological and social effects of the cough in addition to demographic facts, the history of the cough, prior treatments and smoking history. The results were compiled and subjected to statistical analysis using the Mann- Whitney U test. P value less than 0.05 was regarded as significant.

RESULTS AND DISCUSSIONS

Duration of cough was 1-2 years in 102, 2-5 years in 98 and >5 years in 80. Severity was moderate in 56, severe in 134 and very severe in 90. The diagnosis was cough in 175 and asthma in 105. Smoking history was positive in 138 and negative in 147. The common symptoms were breathlessness in 130, wheeze in 110, feeling tired or drained in 56, disturbed sleep in 74 and sore throat in 162. Psychological effects were anger or frustration in 195, depressed in 42, upset in 36 and worry in 74 subjects. Social effects included limited going to cinema seen in 125, to restaurants in 46 and shopping in 165. Treatment sought was nasal sprays in 76, asthma inhalers in 94, anti- histamines in 28, oral steroids in 60 and antibiotics in 22 subjects. The difference was significant ($p<0.05$) (Table I).

One typical symptom that significantly increases morbidity is a persistent cough[9,10]. Studies conducted at specialized cough clinics, where treatment success rates are high, are characterizing it more and more. Nonetheless, little information is available about the community's chronic cough symptom complex[11,12,6]. We performed this study to assess chronic persistent cough in the community.

Out of 280 subjects, males were 130 and females were 150. Ford *et al.*[13] in their survey found that the frequency of coughing fits or spasms throughout the preceding two months was inquired about from the participants. The degree of cough symptoms was classified as symptomatic based on a threshold set for coughing fits or spasms that occurred at least once per seven days or more frequently. Of the 6416 participants who received questionnaires, 4003 (62%) answered. A chronic cough was present in 12% of cases and 7% of cases were severe. After multivariate analysis, irritable bowel syndrome (OR 2.00., 99% CI 1.47-2.72) and regurgitation (OR 1.71., 99% CI 1.20-2.45) were found to be significant predictors of cough. Significant associations were also seen for smoking (OR 1.61., 99% CI 1.18-2.19), falling social class (OR 1.63., 99% CI 1.04-2.57) and baseline quality of life (OR 1.63; 99% CI 1.13-2.35).

In our study, the duration of cough was 1-2 years in 102, 2-5 years in 98 and >5 years in 80. Severity was moderate in 56, severe in 134 and very severe in 90. The diagnosis was cough in 175 and asthma in 105. Smoking history was positive in 138 and negative in147. The common symptoms were breathlessness in 130, wheezing in 110, feeling tired or drained in 56, disturbed sleep in 74 and sore throat in 162. Psychological effects were anger or frustration in 195,

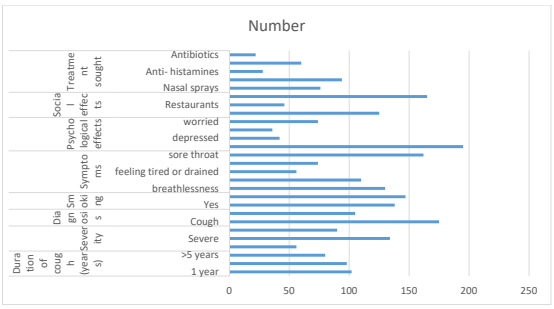

Fig. 1: Assessment of parameters

Table 1: Patients distribution

	Total- 280	
Gender	**Male**	**Female**
Number	130	150

Out of 280 subjects, males were 130 and females were 150.

Table 2: Assessment of parameters

Parameters	Variables	Number	p-value
Duration of cough (years)	1-2	102	0.82
	2-5	98	
	>5	80	
Severity	Moderate	56	0.02
	Severe	134	
	Very severe	90	
Diagnosis	Cough	175	0.04
	Asthma	105	
Smoking	Yes	138	0.52
	No	147	
Symptoms	breathlessness	130	0.05
	wheeze	110	
	feeling tired or drained	56	
	disturbed sleep	74	
	sore throat	162	
Psychological effects	anger or frustration	195	0.03
	depressed	42	
	upset	36	
	worried	74	
Social effects	Limited going to cinema	125	0.01
	Restaurants	46	
	Shopping	165	
Treatment sought	Nasal sprays	76	0.95
	Asthma inhalers	94	
	Anti- histamines	28	
	Oral steroids	60	
	Antibiotics	22	

depression in 42, upset in 36 and worry in 74 subjects. Social effects included limited going to cinema seen in 125, to restaurants in 46 and shopping in 165. Treatment sought was nasal sprays in 76, asthma inhalers in 94, anti-histamines in 28, oral steroids in 60 and antibiotics in 22 subjects. Everett *et al.*[14], 856 chronic cough surveys were distributed to members of the public, 373 completed surveys were sent back. 65.3 years old was the average age (SD 12.0, range 9-88 years). 2 percent of the population currently smoked, while 73% of the population was female. The cough had a median duration of 6.5 years. While 24% reported having asthma, 66% had no other concurrent respiratory illness. 91% of respondents said they had seen a general practitioner about their cough and 85% of them had received a prescription for some kind of medication. Sixty-one percent had visited a hospital specialist. The following physical symptoms were frequently reported: exhaustion (37%), wheezing (35%) and dyspnea (65%).

French *et al.*[15] psychometrically evaluated a cough-specific quality-of-life questionnaire (CQLQ) in adults. One hundred fifty-four subjects complaining of chronic cough, 30 of acute cough and 31 smokers with cough. Acute and chronic cough data were subjected to FA and the Cronbach alpha and interitem correlations were computed. FA of chronic and acute cough data (n = 184) revealed six subscales. The Cronbach alpha for the total CQLQ was 0.92 and it was 0.62 to 0.86 (mean, 0.76) for the six subscales. Interitem correlations for the total CQLQ ranged from -0.06-0.72, with a mean of 0.28. Test-retest reliability in 52 chronic coughers demonstrated nonsignificant changes with readministration of the questionnaire, and the interclass correlation for total CQLQ was 0.89, and for the subscales the range was 0.75-0.93. Analysis of variance followed by tests of contrasts among all possible pairings of chronic coughers, acute coughers, and smokers showed significant differences (p<or = 0.001) among the groups. Posttreatment cure scores were significantly lower (p<or = 0.001) than pretreatment scores in 24 chronic coughers.

CONCLUSION

A common symptom in the general population is a chronic cough. People with chronic cough experience a significant degree of morbidity, which leads to a high rate of healthcare utilization on the part of those affected.

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