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Diagnosis and management of chronic obstructive pulmonary disease by primary health care physicians

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Διάγνωση και αντιμετώπιση χρονίας αποφρακτικής πνευμονοπάθειας από γιατρούς πρωτοβάθμιας περίθαλψης

Περίληψη στο τέλος του άρθρου

OBJECTIVE **The purpose of this study was the evaluation of the role of primary health care physicians in the diagnosis and management of chronic obstructive pulmonary disease (COPD).** METHOD **Sixty-five primary care physicians answered a questionnaire. They were required to select the main and two other findings from the history, physical examination, chest X-ray and lung function tests used in the diagnosis and follow-up of patients with chronic bronchitis, emphysema and asthma. The physicians then indicated the medicines used in the treatment of COPD in the chronic phase and during exacerbations.** RESULTS **Of the patients examined by general practitioners, 11.5% suffered from COPD. Only 23 of the 65 physicians considered that chronic productive cough is the main finding of chronic bronchitis. Twelve physicians diagnosed emphysema on the basis of the chest X-ray, physical examination and history of smoking. Only 6 of the 65 considered that diffusion capacity is helpful in the diagnosis of emphysema. About one in four physicians considered that spirometry is necessary in the follow-up of COPD patients. Theophylline tablets and mucolytics were the most popular medicines prescribed in COPD, and adrenergic inhalers in exacerbations of the disease.** CONCLUSIONS **Because the role of primary health care physicians in the management of COPD is major, the authors conclude that more educational programmes are needed to improve their knowledge about the interpretation of clinical findings and especially, the use of lung function tests in the diagnosis and treatment of chronic bronchitis and emphysema.**

Key words

Chronic bronchitis
Emphysema
Physicians
Primary health care

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Chronic obstructive pulmonary disease (COPD) is characterized by abnormal findings on expiratory flow tests, and includes chronic bronchitis and emphysema.[1] Chronic bronchitis is a condition defined on the clinical basis by the presence of productive cough for at least three months per year, for at least two consecutive years. Emphysema is an anatomically defined disorder, characterized by abnormal airspace enlargement and destruction of airspaces beyond the terminal bronchioles. Bronchial asthma is characterized by reversible airways obstruction. Usually COPD is diagnosed late because patients often lack symptoms, even at moderate degrees of airflow obstruction and because spirometry is not routinely performed.[2,3] In Greece, the diagnosis, follow-up and management of COPD patients is conducted mainly by primary health care physicians, especially in the rural areas.

The purpose of this study was the evaluation of the role of primary health care physicians in the diagnosis, follow-up and pharmacologic treatment of COPD patients.

MATERIAL AND METHOD

Sixty-five primary health care physicians with random selection, answered a questionnaire which included questions on the manner of diagnosis, follow-up and management of COPD. The questionnaire was compiled by a pulmonologist and a general practitioner and was made up of two parts.

The first part included questions about the diagnosis and follow-up of COPD. The physicians answered how many patients with COPD or asthma they examined per week. The physicians indicated the main and two other findings from the patient's history, physical examination, chest X-ray and lung function tests used in the diagnosis and follow-up of chronic bronchitis, emphysema and bronchial asthma, separately for each disease.

The second part concerned the medicines which the physicians prescribe for patients with COPD. The physicians selected the main and two other drugs used in the treatment of COPD in the chronic phase and during acute exacerbations. The medicines were categorized as follows: Adrenergics: inhalers, tablets; Anticholinergics: inhalers; Corticosteroids: inhalers, tablets, injections; Theophyllines: tablets, suppositories, injections; Mucolytics; Antibiotics.

Three of the authors personally handed the questionnaires to the primary health care physicians and collected them thirty minutes later.

The data were recorded in a personal computer and the statistical analysis was performed using the SPSS programme.

RESULTS

Table 1 shows that about one in ten patients presenting in general practice suffers from COPD. The percentage of patients with COPD is higher than that of asthmatic patients.

The diagnosis of chronic bronchitis made by the primary health care physicians is based on the history of chronic productive cough, smoking and physical examination. Only 23 of the 65 physicians consider that productive cough is the main finding of chronic bronchitis (tabl. 2).

Table 3 shows that their diagnosis of emphysema is based on the chest X-ray and physical examination. Only 6 of the 65 physicians consider that the diffusion capacity is necessary in the diagnosis of emphysema.

Their diagnosis of asthma is based on exacerbations with dyspnea, physical examination and response to bronchodilators; 46 of the 65 physicians consider that dyspnea is the main finding in the diagnosis of asthma (tabl. 4).

The follow-up of patients with COPD in general practice is based on history, physical examination and X-ray; 51 physicians choose the chest X-ray for the follow-up of emphysema. Only 14 physicians consider that spirometry is necessary in the follow-up of emphysema and 16 consider that spirometry is necessary in the follow-up of chronic bronchitis (tabl. 5).

Table 6 shows the medicines prescribed by physicians in the chronic phase of COPD. Theophylline is the first

Table 1. Diagnosis of chronic obstructive pulmonary disease (COPD) and bronchial asthma by primary care physicians.

Disease	Examined patients/week
COPD	11.5
Asthma	9.5
All diseases	125.5

Table 2. Diagnostic criteria of chronic bronchitis (65 physicians).

	Physicians (main finding)
Chronic productive cough	52 (23)
Smoking	47 (14)
Physical examination	46
Chest X-ray	15
Dyspnea	14
Age >50 years	12
Productive cough, smoking and physical examination	26

Table 3. Diagnostic criteria of emphysema (65 physicians).

	Physicians (main finding)
Chest X-ray	51 (26)
Physical examination	48 (18)
Smoking	23
Age >50 years	19
Spirometry	9
Diffusion capacity	6
Chest X-ray, physical examination and smoking	12

Table 4. Diagnostic criteria of asthma (65 physicians).

	Physicians (main finding)
Exacerbations with dyspnea	55 (46)
Physical examination	54 (11)
Response to bronchodilators	48
Smoking	23
Spirometry	9

Table 5. Follow-up of patients with COPD (65 physicians).

	Chronic bronchitis	Emphysema	Asthma
History and physical examination	56	50	54
Chest X-ray	47	51	28
Spirometry	16	14	16

Table 6. Management of COPD, chronic phase (65 physicians).

	Physicians (main medicine)
Theophylline tablets	36 (18)
Mucolytic agents	32 (23)
Corticosteroid inhalers	28 (5)
Adrenergic inhalers	27 (11)
Anticholinergic inhalers	16 (10)

Table 7. Management of COPD, acute exacerbation (65 physicians).

	Physicians (main medicine)
Adrenergic inhalers	29 (16)
Antibiotics	26 (9)
Corticosteroid inhalers	18 (6)
Mucolytic agents	17 (7)
Anticholinergic inhalers	17 (3)

choice and mucolytic agents and adrenergic inhalers are prescribed by 32 and 27 physicians respectively. Only 16 of the 65 physicians prescribe anticholinergic inhalers.

Table 7 shows that the most popular medicines prescribed in acute exacerbations of COPD are the adrenergic inhalers and antibiotics. Only 17 physicians prescribe anticholinergic inhalers.

DISCUSSION

Primary health care physicians in Greece do not use lung function tests adequately in the diagnosis and follow-up of COPD, especially for emphysema. Theophylline tablets and mucolytics are the most popular medicines used in the management of COPD, and adrenergic inhalers and antibiotics in the treatment of acute exacerbation of disease. Anticholinergic inhalers are used only by about 25% of the primary care physicians.

The incidence of and morbidity from COPD vary widely between countries. Population-based studies in the United States reported diagnosed COPD in about 6% of adult white males and 3% of adult white females.[4] A study by the authors estimates that in Greece COPD is a more common problem than asthma in general practice.[5] About ten per cent of all patients examined by primary health care physicians suffer from COPD.

The diagnosis of COPD is often made late in its course. Many patients have no symptoms even at persistent airflow limitation as indicated by low forced expiratory volume in one second (FEV1). Chronic productive cough, especially in the morning, is present in all patients with chronic bronchitis.[6,7] Patients with chronic bronchitis usually have been smoking at least 20 cigarettes per day for 20 or more years before the onset of symptoms. Productive cough presents in the fifth, and dyspnea on effort in the sixth or seventh decade of life. Although the diagnosis of chronic bronchitis is based on symptoms, especially those of productive cough, physical findings and smoking habits, only 26 of the 65 primary health care physicians used these criteria for diagnosis. The study of the authors showed that not only patients but also physicians underestimate the diagnostic findings of chronic bronchitis. Conversely, in the diagnosis of bronchial asthma, 46 of the 65 physicians consider that exacerbations of dyspnea is the main criterion of diagnosis. The prolonged course of development of symptoms seems to be the reason for the delay of the diagnosis of chronic bronchitis.[8,9]

Because emphysema is an anatomical term, radiographic images of the lung provide good evidence of its presence.[10] The single-breath carbon monoxide diffusing capacity is decreased in proportion to the severity of emphysema because of destruction of alveolar capillary bed.[11] The consensus statement of the European Respiratory Society includes the diffusion capacity in the routine tests for diagnosis and initial assessment of COPD.[12] This study showed that only 6 of the 65 primary health care physicians consider that diffusion capacity is an essential finding in the diagnosis of emphysema.

Lung function tests are used not only in the diagnosis of COPD but also in the assessment of its severity and for follow-up and prognosis. The FEV1/VC ratio is a sensitive index of mild COPD. The FEV1 is also a good index of the severity of airflow limitation in moderate to severe disease.[12] The assessment of progression of COPD by primary health care physicians in Greece is based almost completely on clinical findings alone. One in four physicians uses spirometry in the follow-up of patients with COPD.

Outpatient treatment should be organized according to the severity of COPD. The pharmacologic therapy includes use of bronchodilators and drugs which decrease the inflammation and facilitate expectoration.[13–15] The goals of treatment in COPD are to prevent symptoms and exacerbations and to improve the quality of life.[16–19] Contrary to recommendations of the European Respiratory Society consensus[12] and the American Thoracic Society[4] statement about diagnosis and care of patients with COPD prescription of theophylline tablets and mucolytics is more popular in general practice than that of inhalered adrenergics or anticholinergics. Only 17 of the 65 physi-

cians prescribe anticholinergic inhalers for exacerbations of COPD in outpatients.

It appears that the diagnosis of COPD by primary health care physicians is underestimated. Although it is recommended that the diagnosis of chronic bronchitis is based on the patient's history and physical findings, some physicians do not evaluate adequately diagnostic criteria such as chronic productive cough or a long history of heavy smoking. Conversely, the diagnosis of emphysema is based on radiographic findings and lung function tests, but there are indications that physicians do not use these tests in the diagnosis, estimation of severity and prognosis of COPD. Finally, the treatment prescribed for COPD by the primary care physicians has many differences from the consensus-statement of the European Respiratory and American Thoracic Societies. Educational programmes on the diagnosis and management of COPD for primary care physicians need to be organized by the National or International Respiratory Societies.

ΠΕΡΙΛΗΨΗ

Διάγνωση και αντιμετώπιση χρονίας αποφρακτικής πνευμονοπάθειας από γιατρούς πρωτοβάθμιας περίθαλψης

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ΣΚΟΠΟΣ Σκοπός της εργασίας ήταν η μελέτη της συμβολής του γιατρού πρωτοβάθμιας περίθαλψης στη διάγνωση και αντιμετώπιση της χρονίας αποφρακτικής πνευμονοπάθειας (ΧΑΠ). **ΥΛΙΚΟ-ΜΕΘΟΔΟΣ** 65 γιατροί πρωτοβάθμιας περίθαλψης συμπλήρωσαν ένα ερωτηματολόγιο, που περιελάμβανε το κύριο και τα άλλα δύο στοιχεία από το ιστορικό, τη φυσική εξέταση, την ακτινογραφία θώρακος και το λειτουργικό έλεγχο της αναπνοής που χρησιμοποιούσαν για τη διάγνωση και την παρακολούθηση ασθενών με χρονία βρογχίτιδα, εμφύσημα και άσθμα. Ακολούθως, συμπλήρωσαν τη θεραπεία που επέλεγαν στην αντιμετώπιση ασθενών με ΧΑΠ στη χρονία φάση και στις παροξύνσεις. **ΑΠΟΤΕΛΕΣΜΑΤΑ** Το 11,5% των ασθενών που εξετάζονταν από γενικούς γιατρούς έπασχε από ΧΑΠ. Μόνο 23 στους 65 γιατρούς θεωρούσε ότι ο χρόνιος παραγωγικός βήχας ήταν το κύριο χαρακτηριστικό της χρονίας βρογχίτιδας. 12 γιατροί έθεταν τη διάγνωση εμφυσήματος με βάση την ακτινογραφία θώρακος, τη φυσική εξέταση και το ιστορικό καπνίσματος. Οι 6 από τους 65 γιατρούς θεωρούσαν τη μέτρηση της διαχυτικής ικανότητας βοηθητική στη διάγνωση εμφυσήματος. Περίπου 1 στους 4 γιατρούς θεωρούσε ότι η σπιρομέτρηση ήταν αναγκαία στην παρακολούθηση ασθενών με ΧΑΠ. Τα δισκία θεοφυλλίνης και τα βλεννολυτικά ήταν τα δημοφιλέστερα φάρμακα στη ΧΑΠ και τα αδρενεργικά εισπνεόμενα στις παροξύνσεις της νόσου. **ΣΥΜΠΕΡΑΣΜΑΤΑ** Ο ρόλος των γιατρών πρωτοβάθμιας περίθαλψης είναι ιδιαίτερα σημαντικός στην αντιμετώπιση της ΧΑΠ, απαιτούνται όμως περισσότερα εκπαιδευτικά προγράμματα, που θα βελτιώσουν τις γνώσεις τους στη διάγνωση, τη θεραπεία και το λειτουργικό έλεγχο της αναπνοής.

Λέξεις ευρετηρίου: Γιατροί πρωτοβάθμιας περίθαλψης, Εμφύσημα, Χρονία βρογχίτιδα

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