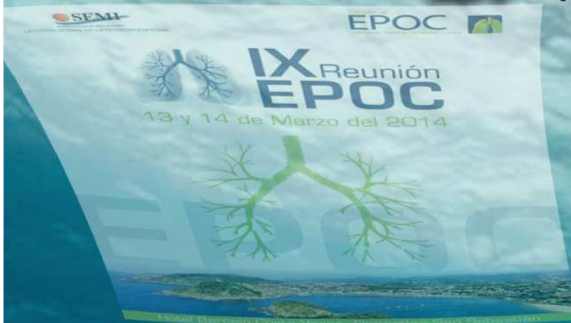


Infradiagnóstico de EP♀C en mujeres. EP⊘C en no fumadores





COPD

mujeres

no fumadores



Prevalencia

Diagnóstico

Etiología

Tratamientos

Manifestaciones clínicas

Pronóstico

Complicaciones



A stone sculpture of a man sitting on a stone bench, with a stone structure to the left, set against a background of a cloudy sky. The man is depicted in a seated, relaxed posture, wearing a simple loincloth. The stone structure to the left has a perforated top. The background is a soft, overcast sky with light clouds.

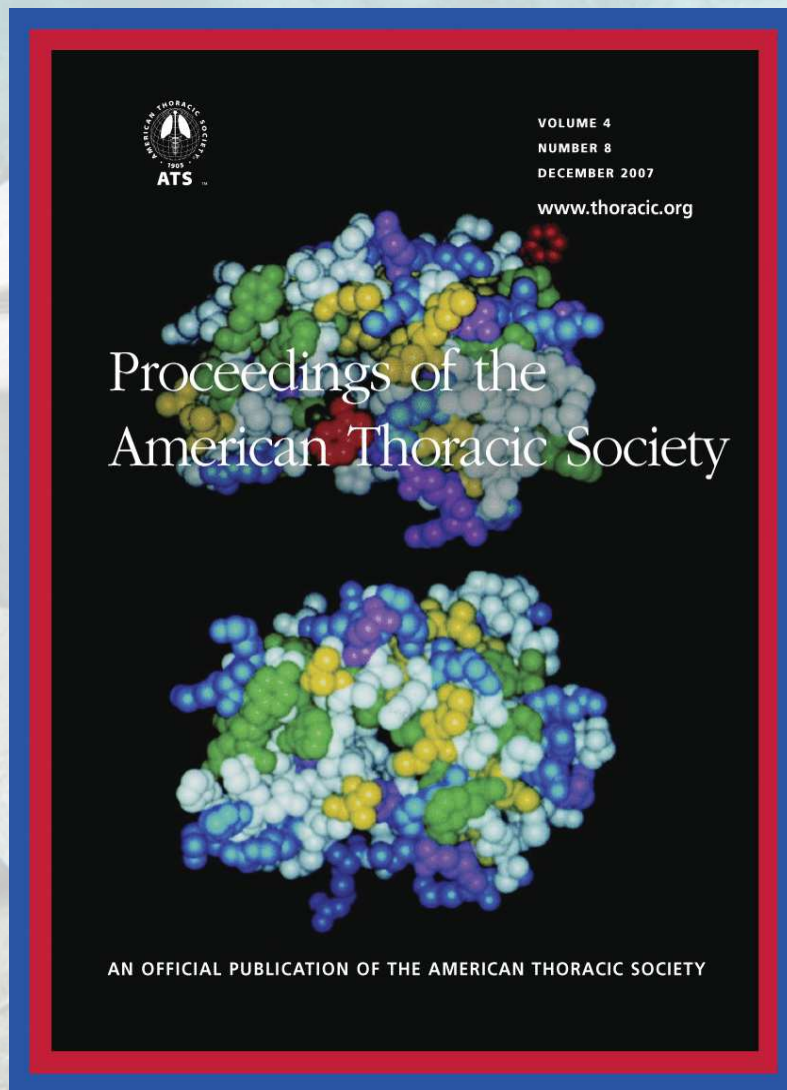
1. EPOC en mujeres

PRENSA NACIONAL 2013

The screenshot shows the top navigation bar of the 'El Médico Interactivo' website. It includes the 'saneo GRUPO' logo, the site title 'El Médico Interactivo', and sub-sections for 'El Médico Estudiantes', 'El Médico Residentes', and 'El Médico Iberoamérica'. Below the navigation is a menu with 'Portada', 'Noticias', 'Formación', 'Análisis', 'Hemeroteca', and 'En Video'. A 'Última Hora' section features a news item about Asturias and a 'REPORTAJE' titled 'Derechos de los médicos, ¿grandes desconocidos?'. A 'FORMACIÓN' section advertises a 'Curso Derechos de los Médicos para AP'. The main article headline reads 'La SEPAR destaca el infradiagnóstico de la EPOC en mujeres'.

The screenshot displays the 'europapress.es' website on a mobile device. The date is 'Domingo, 4 de agosto 2013'. The main navigation bar includes 'POLÍTICA SANITARIA', 'SALUD E INVESTIGACIÓN', 'FARMACIA', 'ASISTENCIA', 'ESTÉTICA', 'NUTRICIÓN', and 'MAYORES'. A secondary bar offers to 'Consulte el estado del tráfico y del Tiempo para estos días >>'. The featured article is titled 'Más de 500.000 mujeres españolas con EPOC están sin diagnosticar'. It includes a photo of a busy street scene in Madrid, a 'Directorio' menu with 'Archivos', 'Bronconeumología', 'Evidencia', and 'España', and social media sharing options for 'Enviar', 'Kindle', 'Compartir', 'GOOGLE+', 'FACEBOOK', 'TWITTER', and 'MENÉAME'. The article text states: 'MADRID, 29 Jul. (EUROPA PRESS).- Unas 540 168 mujeres españolas con enfermedad pulmonar obstructiva crónica (EPOC), de edades comprendidas entre los 40 y los 80 años, están sin diagnosticar, según ha mostrado el estudio EPI-SCAN, publicado en la revista 'Archivos de Bronconeumología' de la Sociedad de Neumología y Cirugía Torácica (SEPAR).'

www.europapress.es/salud/noticia-mas-500000-mujeres-espanolas-epoc-estan-diagnosticar-20130729122356.html
www.elmedicointeractivo.com/noticias/sociedades/121258/la-separ-destaca-el-infradiagnostico-de-la-epoc-en-mujeres

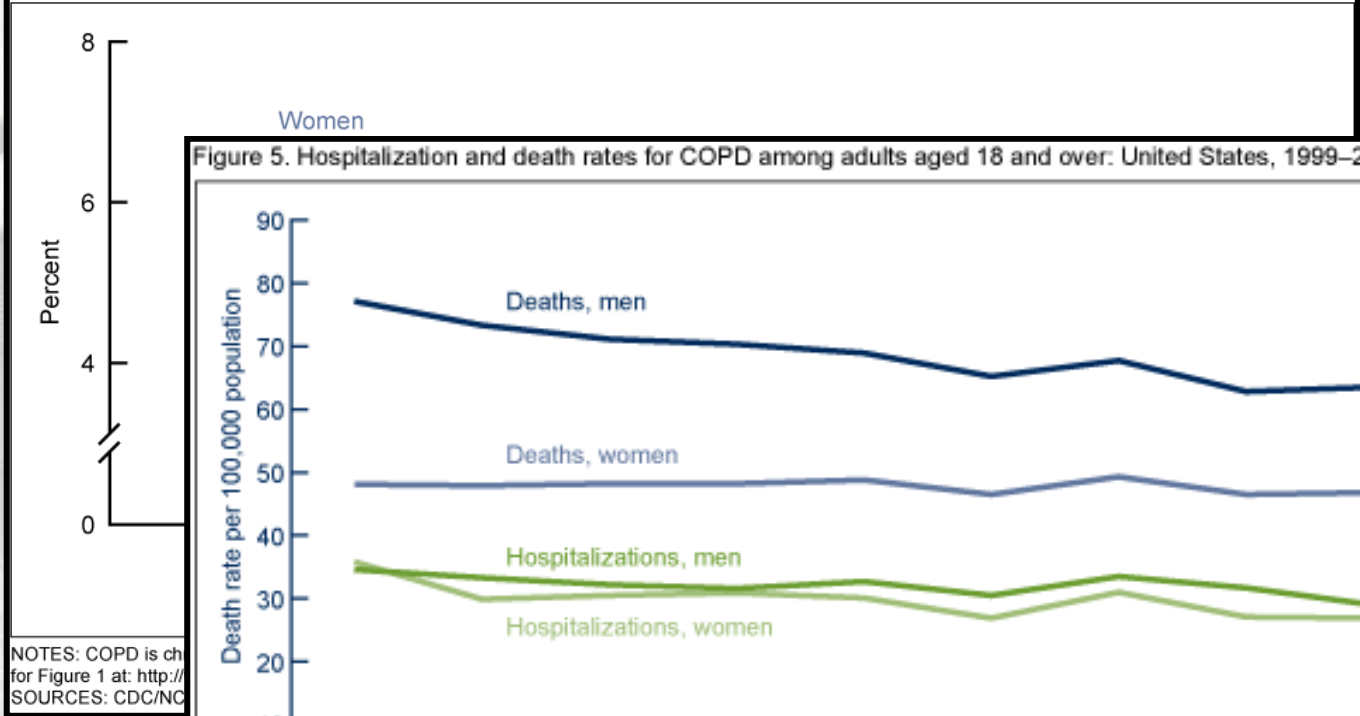


SYMPOSIUM: GENDER AND COPD

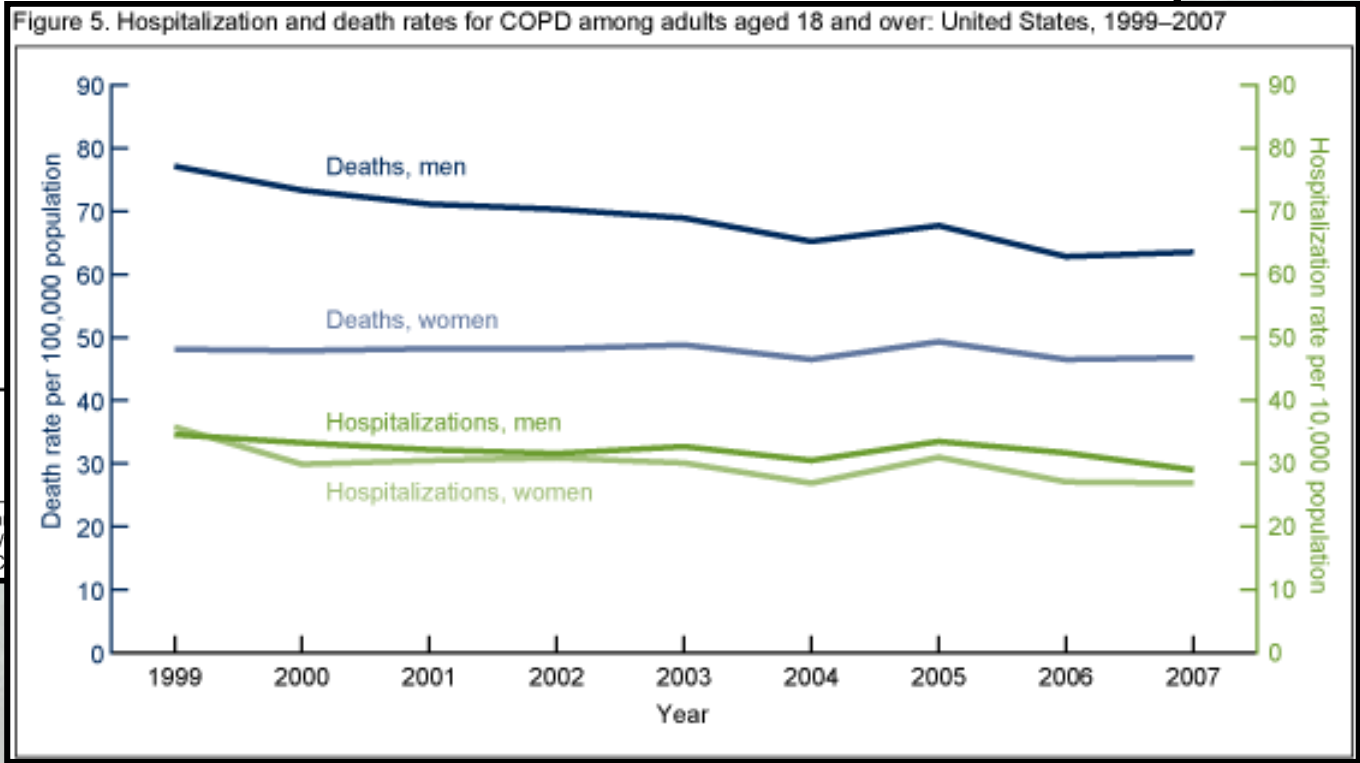
- 669 **The Tip of the "ICEBERGS": A National Conference to Combat the Growing Global Epidemic of COPD in Women**
Don D. Sin, Lorraine Greaves, and Susan Kennedy
Citation | Full Text | PDF (45 KB)
- 671 **Understanding the Biological Differences in Susceptibility to Chronic Obstructive Pulmonary Disease between Men and Women**
Don D. Sin, Sigal Ben-Zaken Cohen, Anna Day, Harvey Coxson, and Peter D. Paré
Abstract | Full Text | PDF (79 KB)
- 675 **Tobacco Use, Women, Gender, and Chronic Obstructive Pulmonary Disease: Are the Connections Being Adequately Made?**
Lorraine J. Greaves and Lindsay A. Richardson
Abstract | Full Text | PDF (80 KB)
- 680 **Understanding the Social Consequences of Chronic Obstructive Pulmonary Disease: The Effects of Stigma and Gender**
Joy L. Johnson, Audrey C. Campbell, Michele Bowers, and Anne-Marie Nichol
Abstract | Full Text | PDF (57 KB)
- 683 **Reflecting the Changing Face of Chronic Obstructive Pulmonary Disease: Sex and Gender in Public Education Materials on COPD**
Ann P. Pederson, Kristy A. K. Hoyak, Sue Mills, and Pat G. Camp
Abstract | Full Text | PDF (64 KB)
- 686 **Gender and the Diagnosis, Management, and Surveillance of Chronic Obstructive Pulmonary Disease**
Pat G. Camp and Sarah M. Goring
Abstract | Full Text | PDF (94 KB)
- 692 **Environmental and Occupational Exposures: Do They Affect Chronic Obstructive Pulmonary Disease Differently in Women and Men?**
Susan M. Kennedy, Reid Chambers, Weiwei Du, and Helen Dimich-Ward
Abstract | Full Text | PDF (74 KB)



Figure 1. Prevalence of COPD among adults aged 18 and over: United States, 1998–2009



NOTES: COPD is ch
for Figure 1 at: <http://>
SOURCES: CDC/NC



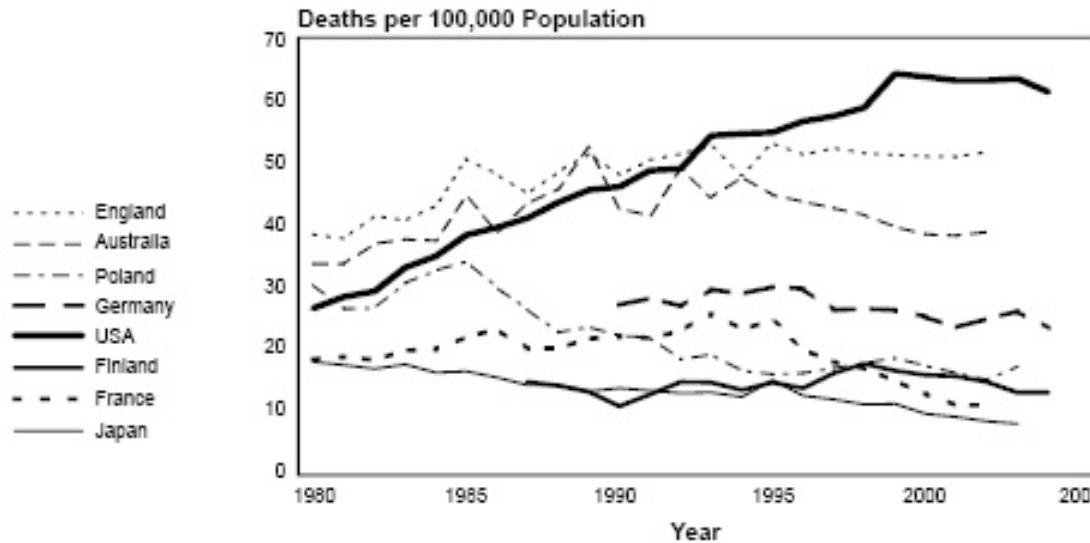
Number of COPD Deaths in Women Increasing Sharply

80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1979

Women have Higher Rates of COPD for Most of Their Lifetime

15

Death Rates* for Chronic Obstructive Pulmonary Disease in Women Ages 35+ Years, Selected Countries, 1980–2004



* Age-adjusted to the European Standard Population.
Source: World Health Statistics Annual, WHO.

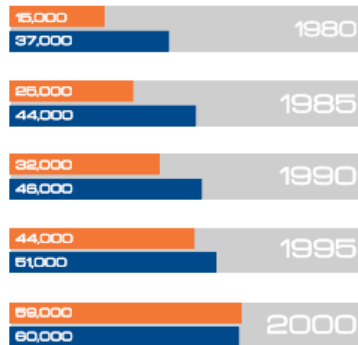
C. BRFSS, 2011.



WOMEN AND COPD

COPD, or Chronic Obstructive Pulmonary Disease, is an umbrella term used to describe progressive lung diseases including emphysema, chronic bronchitis, refractory (non-reversible) asthma, and some forms of bronchiectasis. This disease is characterized by increasing breathlessness.

COPD MORTALITY MEN vs WOMEN



Source: US Centers for Disease Control and Prevention, 2002

SYMPTOMS

- SHORTNESS OF BREATH
- CHRONIC COUGH
- CHEST TIGHTNESS
- FATIGUE
- MUCUS

COPD RELATED HOSPITALIZATIONS There were 1.4 MILLION Emergency Room Visits



Source: Chronic Disease Prevention and Control and Health Statistics Division, Behavioral Risk Factor Survey, 2004-2005



WOMEN ARE 2X LIKELY TO BE DIAGNOSED WITH CHRONIC BRONCHITIS THAN MEN

Source: Centers for Disease Control and Prevention, (CDC), National Center for Health Statistics, (NCHS) Behavioral Risk Factor Survey, 2004-2005



WOMEN WHO SMOKE ARE 13X AS LIKELY TO DIE FROM COPD

Source: U.S. Department of Health and Human Services, The Health Consequences of Smoking: A Report of the Surgeon General, 2004

6%
OF U.S. WOMEN HAVE COPD
vs 4% OF MEN

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey, 1999-2004



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THE FACE OF COPD

COPD Learn More Learn More About the "Silent" Epidemic of the 21st Century

34% MEN **66% WOMEN**

Americans with COPD are at risk for long-term disability. The number of people with COPD is increasing. More than 12 million people are diagnosed with COPD and an additional 12 million likely have the disease and don't even know it. Here are 4 things YOU can do to live a longer, more active life.

1. Be aware of the risk factors
2. Recognize the symptoms
3. Ask your doctor or health care provider about a simple breathing test
4. Follow treatment advice



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10 years
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See 23 articles about COPD gene function
See also: COPD Pulmonary disease, chronic obstructive, severe early-onset in the Gene database
copd in Homo sapiens | Cupriavidus metallidurans CH34 | Serratia marcescens | All 72 Gene records

Results: 11

[Impact of active and passive smoking as risk factors for asthma and COPD in women presenting to primary care in Syria: first report by the WHO-GARD survey group.](#)
Mohammad Y, Shaaban R, Al-Zahab BA, Khaltaev N, Bousquet J, Dubaybo B.
Int J Chron Obstruct Pulmon Dis. 2013;8:473-82. doi: 10.2147/COPD.S50551. Epub 2013 Oct 2.
PMID: 24124359 [PubMed - in process] Free PMC Article
[Related citations](#)

[COPD in Helsinki, Finland: socioeconomic status based on occupation has an important impact on prevalence.](#)
Kainu A, Rouhos A, Sovijärvi A, Lindqvist A, Sama S, Lundbäck B.
Scand J Public Health. 2013 Aug;41(6):570-8. doi: 10.1177/1403494813484554. Epub 2013 Apr 18.
PMID: 23599377 [PubMed - indexed for MEDLINE]
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[The underdiagnosis of Chronic Obstructive Pulmonary disease in women. Another pending task?](#)
Arnedillo Muñoz A.
Arch Bronconeumol. 2013 Jun;49(6):221-2. doi: 10.1016/j.arbres.2013.03.001. Epub 2013 Apr 4. English, Spanish.
No abstract available.
PMID: 23562408 [PubMed - indexed for MEDLINE] Free Article
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[Underdiagnosis of chronic obstructive pulmonary disease in women: quantification of the problem, determinants and proposed actions.](#)
Ancochea J, Miravittles M, García-Río F, Muñoz L, Sánchez G, Sobradillo V, Duran-Tauleria E, Soriano JB.
Arch Bronconeumol. 2013 Jun;49(6):223-9. doi: 10.1016/j.arbres.2012.11.010. Epub 2013 Jan 12. English, Spanish.
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Original Article

Geographical Variations in the Prevalence of COPD in Spain: Relationship to Smoking, Death Rates and other Determining Factors

Joan B. Soriano,^{4*} Marc M. Jaime Martínez,¹ Teodoro Juan José Soler-Cataluña,

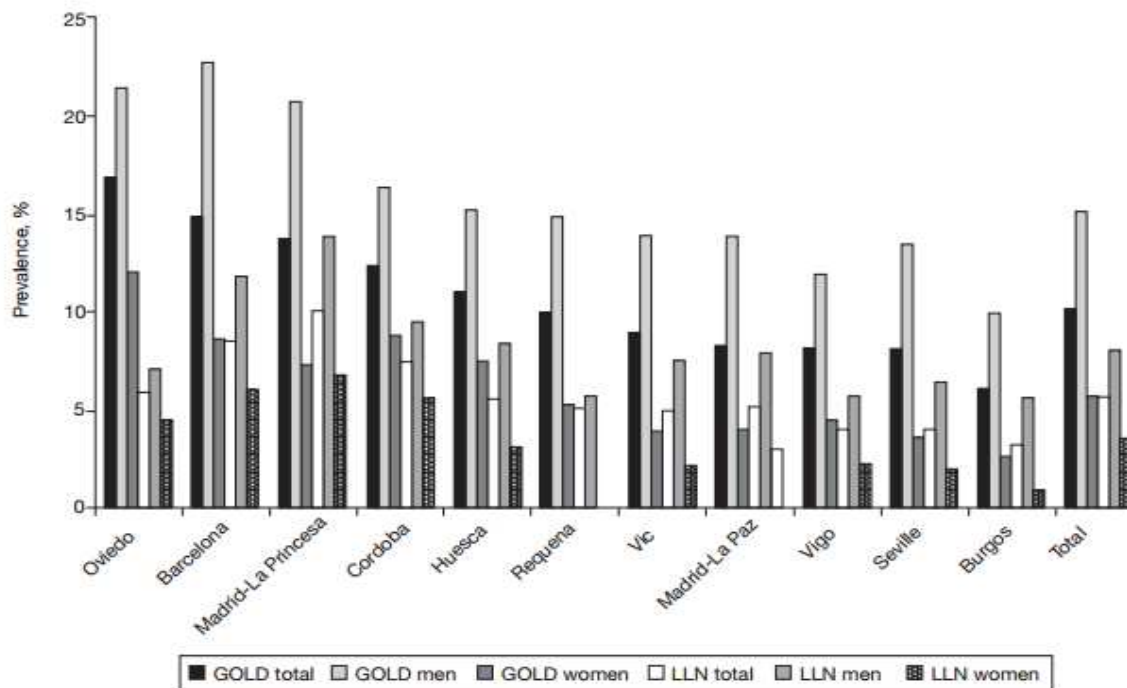
¹Fundación Caubet-CIMERA, Hitoric Hospital de Huesca, Huesca, Spain
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Prevalence of COPD in Spain: impact of undiagnosed COPD on quality of life and daily life activities

M Miravittles,¹ J B Soriano,² F García-Río,³ L Muñoz,⁴ E Duran-Tauleria,⁵ G Sanchez,⁶ V Sobradillo,⁷ J Ancochea⁸

► Additional information about the population of the study is published online only at <http://thorax.bmj.com/content/64/10/issue10>

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ABSTRACT

Aims: This study aimed to determine the prevalence of chronic obstructive pulmonary disease (COPD) in Spain and identify the level of undiagnosed disease and its impact on health-related quality of life (HRQL) and activities of daily living (ADL).

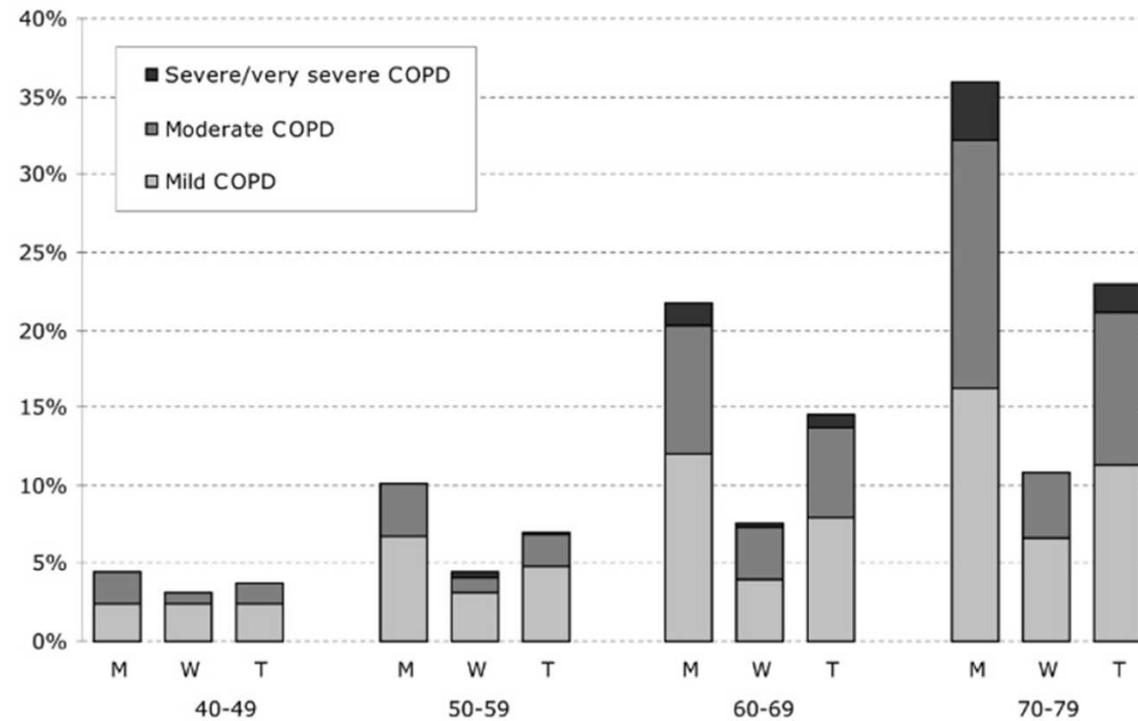
Methods: A population-based sample of 4274 adults aged 40–80 years was surveyed. They were invited to answer a questionnaire and undergo prebronchodilator and postbronchodilator spirometry. COPD was defined as a postbronchodilator FEV₁/FVC (forced expiratory volume 1 s/forced vital capacity) ratio of <0.70.

Results: For 3802 participants with good-quality post-bronchodilator spirometry, the overall prevalence of COPD was 10.2% (95% CI 9.2% to 11.1%) and was higher in men (15.1%) than in women (5.6%). The prevalence of COPD stage II or higher was 4.4% (95% CI: 3.8%–5.1%). The prevalence of COPD increased with age and with cigarette smoking and was higher in those with a low educational level. A previous diagnosis of COPD was reported by only 27% of those with COPD. Diagnosed patients had more severe disease, higher cumulative tobacco consumption and more severely impaired HRQL compared with undiagnosed subjects. However, even patients with undiagnosed COPD stage I+ already show impairment in HRQL and in some aspects of ADL compared with participants without COPD.

Conclusions: The prevalence of COPD in individuals between 40 and 80 years of age in Spain is 10.2% and increases with age, tobacco consumption and lower educational levels. The rate of diagnosed COPD is very high and undiagnosed individuals with COPD already have a significant impairment in HRQL and ADL.

The prevalence of chronic obstructive pulmonary disease (COPD) varies from country to country, mainly due to the effects of cumulative exposure to smoking and the increased life span of the population. There are increasingly more data on the prevalence and distribution of COPD from around the world, but until very recently most have been derived from expert opinion and not from well-conducted epidemiological studies using postbronchodilator spirometry; moreover, studies differed in terms of age bands as well as in the use of different criteria of COPD.^{1,2} Therefore, direct comparisons between prevalences obtained in different countries are not always possible. The Global Initiative for Chronic Obstructive Lung Disease (GOLD) has resulted in an agreement on spirometric thresholds for diagnosis and severity and has become the gold standard, at least for epidemiological purposes.³

An epidemiological survey conducted from 1997 to 1998 in adults between 40 and 70 years of age in Spain reported a prevalence of COPD of 9.1%⁴ according to the old European Respiratory Society



Study population

Participants were selected using a commercially available database that contained information on the telephone numbers of 3 728 305 residents in the areas selected, which represents >90% of the

NO
6%

Arch Bronconeumol. 2013;49(6):223-229



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Original

Infradiagnóstico de la enfermedad pulmonar obstructiva crónica en mujeres: cuantificación del problema, determinantes y propuestas de acción

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 España
 Espirometría
 Infradiagnóstico
 Sexo
 Tabaco

RESUMEN

Introducción: La distribución de la infradiagnóstico y determinantes en el estudio epidemiológico, observacional, edades entre 40 y 80 años.
Pacientes y método: En este trabajo se los 3.802 participantes del estudio EPI-SCAN.
Resultados: Con 2.005 mujeres y 1.797 en mujeres (5,7%; IC 95%, 4,7-6,7) que participan con EPOC, las 114 (29,5%) menor exposición tabáquica, y referencias ratorios, no existían diferencias por se espunto menos frecuentemente ($p < 0,05$) entre mujeres y hombres. El 73% de lo porcentaje se distribuye desigualme que en hombres (67,6%) ($p < 0,05$). Es la población, se estima que en España existirían 628.102 mujeres con EPOC.
Conclusiones: La EPOC está más infradiagnóstico en mujeres.
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Underdiagnosis of Chronic Obstructive Pulmonary Disease: Quantification of the Problem, Determinants and Proposals for Action

ABSTRACT

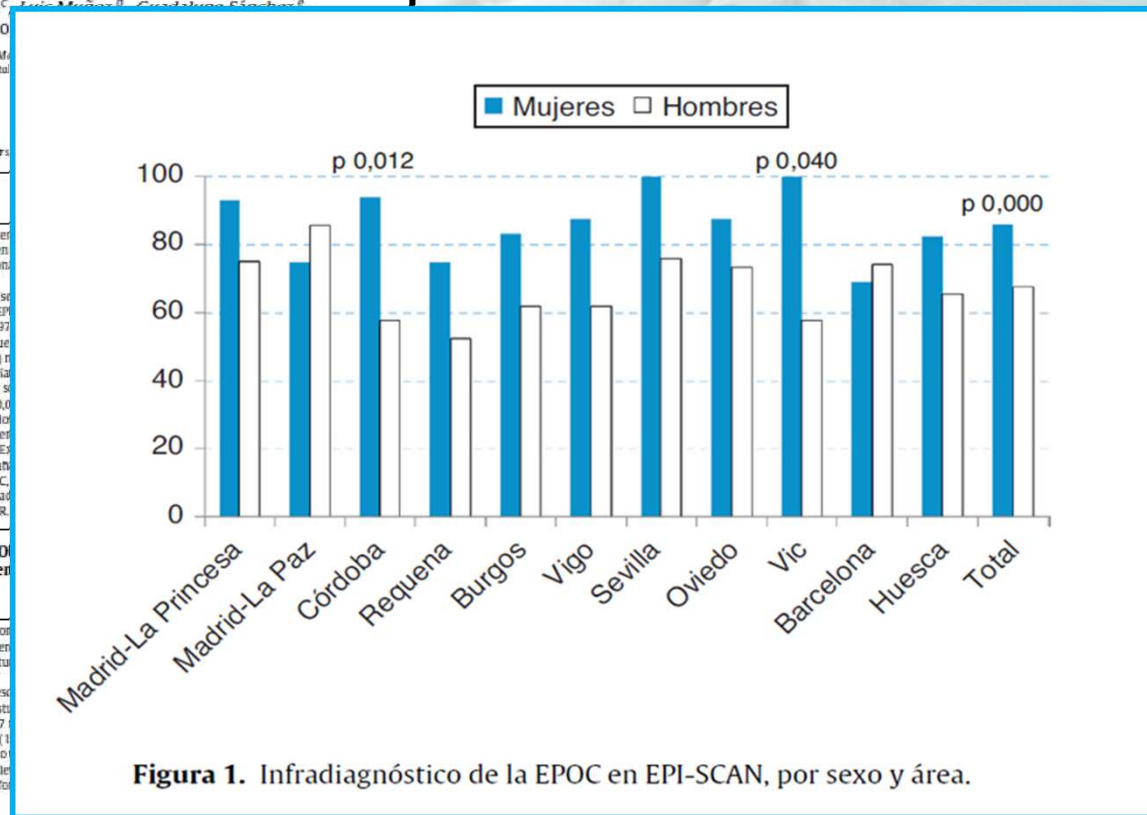
Introduction: The distribution of chronic obstructive pulmonary disease (COPD) and determinants in the general population is an epidemiologic, observational study, ages 40 to 80.
Patients and method: This paper describes 3,802 participants of the EPI-SCAN study.
Results: With 2,005 female and 1,797 male participants with COPD, 114 (29.5%) were women, who reported a lower tobacco exposure, while reporting a lower prevalence of COPD, there were no differences between sexes for

Keywords:
 Chronic obstructive pulmonary disease
 Spain
 Spirometry
 Underdiagnosis
 Gender
 Tobacco

* Autor para correspondencia.
 Correo electrónico: jbsoriano@caubet-cimera.es (J.B. Soriano).

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Estudio EPI-SCAN



El infradiagnóstico fue 1,27 veces más frecuente en mujeres (86,0%)

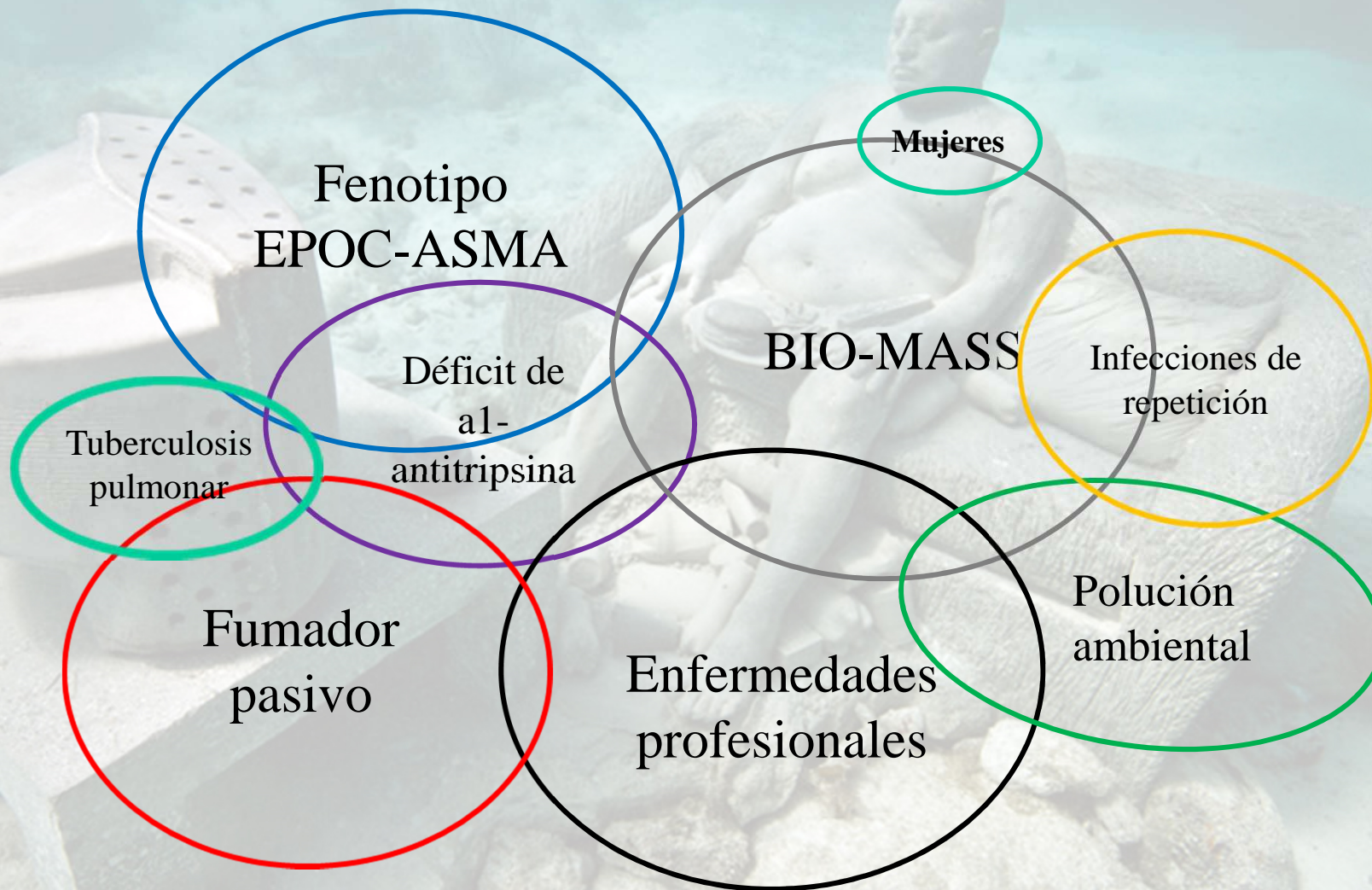
A photograph of a man sitting on a stone bench next to a stone structure with a perforated top, possibly a water feature, in an outdoor setting. The man is shirtless and appears to be in a relaxed posture. The background shows a natural, rocky environment with some vegetation.

2. EPOC en no fumadores

A photograph of a man sitting on a stone bench in a desert landscape. The man is shirtless, has a large belly, and is wearing shorts. He is looking to the right. To his left is a large, ornate stone structure, possibly a well or a monument. The background shows a sandy desert with some sparse vegetation. The text is overlaid on the image.

**20-30% de la EPOC
NO es tabacosis**

Zeng G. Non-smoking-related chronic obstructive pulmonary disease: A neglected entity? Resp 2012; 17: 908-912.



*Sundee SS. Chronic obstructive pulmonary disease in non-smokers. Lancet 2009; 374: 733–43.
Zeng G. Non-smoking-related chronic obstructive pulmonary disease: A neglected entity? Resp 2012; 17: 908–912.*

2012
F.I: 2,78



Official Journal of the Asian Pacific Society of Respiriology

Respirology



INVITED REVIEW SERIES:
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SERIES EDITORS: JOHN E HEFFNER AND DAVID CL LAM

**Non-smoking-related chronic obstructive pulmonary disease:
A neglected entity?**

GUANGQIAO ZENG, BAOQING SUN AND NANSHAN ZHONG

*State Key Laboratory of Respiratory Disease, First Affiliated Hospital, Guangzhou Medical College,
Guangzhou, China*

1 de cada 4 EPOC – no fumador

17-38% de los pacientes EPOC en el mundo son no fumadores
(según criterios espirométricos de la GOLD)

Panel: Non-smoking risk factors associated with chronic obstructive pulmonary disease

Indoor air pollution

- Smoke from biomass fuel: plant residues (wood, charcoal, crops, twigs, dried grass) animal residues (dung)
- Smoke from coal

Occupational exposures

- Crop farming: grain dust, organic dust, inorganic dust
- Animal farming: organic dust, ammonia, hydrogen sulphide
- Dust exposures: coal mining, hard-rock mining, tunnelling, concrete manufacturing, construction, brick manufacturing, gold mining, iron and steel founding
- Chemical exposures: plastic, textile, rubber industries, leather manufacturing, manufacturing of food products
- Pollutant exposure: transportation and trucking, automotive repair

Treated pulmonary tuberculosis

Lower-respiratory-tract infections during childhood

Chronic asthma

Outdoor air pollution

- Particulate matter (<10 μm or <2.5 μm diameter)
- Nitrogen dioxide
- Carbon monoxide

Poor socioeconomic status

Low educational attainment

Poor nutrition

Does COPD in never-smokers have a different phenotype?

Very few studies have investigated the non-smoking phenotype of COPD or made comparisons with the smoking phenotype. Ramírez-Venegas and colleagues¹⁰⁶ reported that Mexican women who had COPD and had been exposed to smoke from biomass fuel, had similar clinical characteristics, quality of life, and mortality to those with COPD due to tobacco smoking. However, Shavelle and co-workers¹⁰⁷ showed that in US patients with COPD the reduction in life expectancy was less for those who had never smoked than for those with COPD due to smoking. By comparison, Moran-Mendoza and colleagues¹⁰⁸ reported that women with COPD due to exposure to biomass smoke had more lung fibrosis, greater pigment deposition, and thicker pulmonary artery intimas than did those with COPD due to tobacco smoking, who had greater emphysema and epithelial damage. Clearly further research is needed to elucidate phenotypes of COPD.

Prevalence of COPD in never-smokers worldwide

Prevalence of COPD in never-smokers worldwide (Australia, Belgium, Denmark, France, Germany, Iceland, Ireland, Italy, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, UK, and USA).

2009

Prevalence of COPD in Spain: impact of undiagnosed COPD on quality of life and daily life activities

M Miravittles,¹ J B Soriano,² F García-Río,³ L Muñoz,⁴ E Duran-Tauleria,⁵ G Sanchez,⁶
V Sobradillo,⁷ J Ancochea⁸

Table 3 Chronic obstructive pulmonary disease (COPD) prevalence according to smoking history

| Gender | Age group | Non-smokers | Pack-years (smokers and ex-smokers) | | | Total (smokers and ex) |
|--------|-------------|--------------|-------------------------------------|-------------------|--------------------|------------------------|
| | | | 1–14 | 15–30 | >30 | |
| Men | 40–49 | 3/153 (2.0) | 6/152 (4.0) | 10/197 (5.1) | 7/83 (8.4) | 23/432 (5.3) |
| | OR (95% CI) | 1 | 2.1 (0.5 to 8.6) | 2.7 (0.7 to 10.0) | 4.6 (1.2 to 18.3) | 2.8 (0.8 to 9.5) |
| | 50–59 | 5/134 (3.7) | 4/100 (4.0) | 16/135 (11.9) | 26/139 (18.7) | 46/374 (12.3) |
| | OR (95% CI) | 1 | 1.1 (0.3 to 4.2) | 3.5 (1.2 to 9.8) | 5.9 (2.2 to 15.9) | 3.6 (1.4 to 9.3) |
| | 60–69 | 10/114 (8.8) | 7/59 (11.9) | 18/87 (20.7) | 54/147 (36.7) | 79/293 (27.0) |
| | OR (95% CI) | 1 | 1.4 (0.3 to 2.1) | 2.7 (1.2 to 6.2) | 6.0 (2.9 to 12.5) | 3.8 (1.9 to 7.6) |
| | 70–80 | 19/88 (21.6) | 7/38 (18.4) | 22/53 (41.5) | 58/116 (50.0) | 87/207 (42.0) |
| | OR (95% CI) | 1 | 0.8 (0.3 to 2.1) | 2.6 (1.2 to 5.5) | 3.6 (1.9 to 6.7) | 2.6 (1.5 to 4.6) |
| Women | 40–49 | 4/223 (1.8) | 1/178 (0.6) | 12/214 (5.6) | 4/44 (9.1) | 17/436 (3.9) |
| | OR (95% CI) | 1 | 0.3 (0 to 2.7) | 3.3 (1.0 to 10.0) | 5.5 (1.3 to 22.9) | 2.2 (0.7 to 6.6) |
| | 50–59 | 11/318 (3.5) | 2/118 (1.7) | 7/115 (6.1) | 7/55 (12.7) | 16/288 (5.6) |
| | OR (95% CI) | 1 | 0.5 (0.1 to 2.3) | 1.8 (0.7 to 4.8) | 4.1 (1.5 to 11.1) | 1.6 (0.7 to 3.5) |
| | 60–69 | 24/322 (7.5) | 2/33 (6.1) | 1/40 (2.5) | 5/27 (18.5) | 8/100 (8.0) |
| | OR (95% CI) | 1 | 0.8 (0.2 to 3.5) | 0.3 (0 to 2.3) | 2.9 (1.0 to 8.1) | 1.1 (0.5 to 2.5) |
| | 70–80 | 24/283 (8.5) | 2/15 (13.3) | 3/8 (37.5) | 5/10 (50.0) | 10/33 (30.3) |
| | OR (95% CI) | 1 | 1.7 (0.4 to 8.0) | 6.5 (1.5 to 29.0) | 10.8 (2.9 to 40.0) | 4.7 (2.0 to 11.0) |



RESULTS

During 1997 to 2004, the COPD prevalence among nonsmoking working adults aged 25 years or more was 2.8% (95% CI = 2.7 to 3.0) (Table 2). The prevalence was significantly higher in females than in males, in both whites and blacks compared with other races. Between 1997 to 2000 and 2001 to 2004, the overall average annual COPD prevalence and prevalence by age, sex, and race did not change significantly (Table 2).

During 1997 to 2004, of the 27 occupational groups, 3 groups had significantly higher annual average COPD prevalence than the overall annual prevalence (2.8%): *financial records processing* (4.6%), *mail and message distributing* (4.4%), and *secretary, stenographers, and typists* (4.1%). The differences in annual average COPD prevalences in these occupational groups were not confounded by age. The mean ages in these occupational groups do not differ statistically between the two periods. For example, the mean age for *financial records processing* was 43.6 (95% CI = 42.9 to 44.3) years and 44.7 (95% CI = 44.0 to 45.3) years for 1997 to 2000 and 2001 to 2004, respectively (data not shown). In 17 occupational groups, the COPD prevalence increased between 1997 to 2000 and 2001 to 2004, but these changes were not significant (Table 3). The percentage change in COPD prevalence ranged from -70.0% (ie, indicating the decrease in prevalence) to 93.3% (ie, indicating the increase in prevalence). The COPD prevalence increased more than 50% in *private household* (93.3%), *machine operators and tenders, except precision* (92.3%), *other administrative support* (61.5%), and *engineers and scientists* (53.3%) occupational groups. The COPD prevalence decreased more than 50% in *farming, forestry, and fishing* (-70.0%) and *police and firefighters* (-57.1%) occupational groups. No statistically significant percentage change was found in these occupational groups (Table 3).

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Prevalence of COPD Among Nonsmoking Working Adults in the United States

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PhD

range 4% to 24%) of COPD is attributable to occupational exposures.² Occupational exposures associated with COPD include dusts, minerals (coal, oil mist, and silica), fibers, chemicals (lead, cadmium, isocyanates, vinyl chloride, and polycyclic aromatic hydrocarbons), and welding fumes.¹⁹⁻²⁴ A study based on the Third National Health and Nutrition Examination Survey (NHANES III) reported that the fraction of COPD attributable to occupational exposures was 31.1% among nonsmokers and prevalence odds ratios were elevated for certain industries and occupations among nonsmokers.¹² For example, COPD was significantly associated with the utility industry (odds ratio = 27.7; 95% confidence interval [CI] = 3.6 to 214) and the records processing and distribution occupation (odds ratio = 2.9; 95% CI = 1.1 to 7.6).¹² The purpose of this study was to examine COPD prevalence changes among nonsmoking working adults between 1997 to 2000 and 2001 to 2004 by occupational groups.

n = 78.163, mayores de 25 años

Mild and Moderate-to-Severe COPD in Nonsmokers*

Distinct Demographic Profiles

Carolyn E. Behrendt, PhD

Study objective: To investigate the risk of COPD among nonsmokers.

Design: Case-control study, logistic regression analysis.

Setting: Third National Health and Nutrition Examination Survey, from 1988 to 1994.

Participants: Community residents 18 to 80 years of age, of white, black, or Mexican-American ethnicity. Nonsmokers included never-smokers and former smokers with a < 5 pack-year smoking history who had never smoked cigars or pipes.

Measurements: COPD (FEV₁/FVC < 70%) was classified as mild (FEV₁ ≥ 80% predicted) or moderate to severe (FEV₁ 23 to 79% predicted).

Results: Among 13,995 examinees, 51.3 ± 0.4% were female, mean age was 42.2 ± 0.4 years, 48.7 ± 0.9% were nonsmokers, 8.8 ± 0.3% had mild COPD, and 4.1 ± 0.3% had moderate-to-severe COPD [± SE]. One fourth of mild and moderate-to-severe cases were nonsmokers. Among 7,526 nonsmokers, 4.7 ± 0.3% had mild COPD (n = 403; age, 60.9 ± 1.3 years) and were mostly female (82.5%), while 1.9 ± 0.3% had moderate-to-severe COPD (n = 92, age 39.3 ± 1.3) and were mostly male (88.1%). Few nonsmokers with COPD (12.1 ± 2.4%) had a previous diagnosis of chronic bronchitis or emphysema. Among nonsmokers, physician-diagnosed asthma increased the risk of mild and especially of moderate-to-severe COPD. Independently of asthma, risk of mild COPD in nonsmokers increased with age (doubling every 12 years), before age 60 was lower among men than women, and was inversely associated with current exposure to tobacco smoke at home and at work. In contrast, the risk of moderate-to-severe COPD in nonsmokers was markedly associated with male gender, peaked in middle age, and was inversely associated with

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Conclusions: Among nonsmokers, mild and moderate-to-severe COPD are associated with asthma but otherwise have distinct demographic profiles, suggesting that moderate-to-severe disease is not a mere progression of mild COPD. (CHEST 2005; 128:1239-1244)

COPD most commonly refers to chronic bronchitis, emphysema, and the subset of asthma characterized by irreversible or partly reversible airflow obstruction.¹ Although the majority of COPD occurs in current or former smokers, the disease also occurs in persons who have never smoked. According to the

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previous epidemiologic study² of COPD in nonsmokers, prevalence is greater among women than men until the age of 60 years, when prevalence ceases to differ by sex. Neither urban residence nor occupational category is associated with COPD in nonsmokers.² In the general population, COPD is independently associated with smoking, age, and asthma but not with atopy alone.^{3,4} In addition, genetic predisposition, environmental tobacco smoke, air pollution, *Helicobacter pylori* infection, and autoimmune thyroid disease have been proposed as risk factors for COPD.⁵⁻⁹

The possibility that risk factors for COPD differ according to the severity of disease has not been investigated to date. Using data from a national health examination, the current study identifies and

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RESEARCH

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Characterisation of exacerbation risk and exacerbator phenotypes in the POET-COPD trial

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Abstract

Background: Data examining the characteristics of patients with frequent exacerbations of chronic obstructive pulmonary disease (COPD) and associated hospitalisations and mortality are scarce.

Methods: *Post-hoc* analysis of the Prevention Of Exacerbations with Tiotropium in COPD (POET-COPD) trial, targeting exacerbations as the primary endpoint. Patients were classified as non-, infrequent, and frequent exacerbators (0, 1, or ≥ 2 exacerbations during study treatment), irrespective of study treatment. A multivariate Cox regression model assessed the effect of covariates on time to first exacerbation.

Results: In total, 7376 patients were included in the analysis: 63.5% non-exacerbators, 22.9% infrequent, 13.6% frequent exacerbators. Factors significantly associated with exacerbation risk were age, sex, body mass index, COPD duration and severity, smoking history, baseline inhaled corticosteroid use, and preceding antibiotic or systemic corticosteroid courses. Frequent exacerbators had greater severity and duration of COPD, received more pulmonary medication, and ≥ 2 systemic corticosteroid or antibiotic courses in the preceding year, and were more likely to be female and ex-smokers. The small proportion of frequent exacerbators (13.6%) accounted for 56.6% of exacerbation-related hospitalisations, which, overall, were associated with a three-fold increase in mortality.

Conclusion: The frequent exacerbator phenotype was closely associated with exacerbation-related hospitalisations, and exacerbation-related hospitalisations were associated with poorer survival.

Trial registration: NCT00563381; Study identifier: BI 205.389.

Keywords: Chronic obstructive pulmonary disease, Exacerbations, Mortality, Hospitalisation, Tiotropium, Salmeterol, GOLD

Comparison of clinical features between non-smokers with COPD and smokers with COPD: a retrospective observational study

Conclusion: Non-smokers with COPD had less impairment in airflow limitation and gas exchange, and a lower prevalence of emphysema, chronic cough, and sputum compared with their smoking counterparts. Tobacco cessation is warranted in smokers with COPD.

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| | (n=230) | (n=375) | | for FEV ₁ |
|-----------------------|-----------|------------|-------|----------------------|
| Chronic cough, n (%) | 19 (8.3%) | 60 (16%) | 0.006 | 0.001 |
| Chronic sputum, n (%) | 19 (8.3%) | 57 (15.2%) | 0.016 | 0.002 |
| mMRC > 1, n (%) | 3 (1.3%) | 8 (2.1%) | 0.546 | 0.214 |

Abbreviations: COPD, chronic obstructive pulmonary disease; FEV₁, forced expiratory volume in first second of expiration; mMRC, modified Medical Research Council dyspnea score.



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