to newer agents in the initiation of drug therapy contrary to current guideline recommendations. Newer agents were not thought to be more efficacious, have better short- and long-term adverse effect profiles and be more expensive than older agents. Older doctors most often held these attitudes. Guidelines influenced decision making but were not the most important factor. **Conclusions:** There is a demonstrable need for governments to invest in the promotion of accurate information on drugs through continuing education of prescribers and facilitating the production of standardized paper and web-based clinical guidelines. A program of targeted investment in clinical trials that examine the justification for different classes of agents should also be considered in appropriate circumstances.

Conflict of interest and funding

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ABS59: The effects of integrated care for COPD patients on quality of life. Review and research design

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Introduction: The care-program COPD-Utrecht was developed to implement the national guidelines for the diagnosis and management of COPD. The program is executed in cooperation with a regional network organisation, Diagnosis for Health, and care providers. Diagnosis for Health has developed a computerized asthma-COPD consultation method for general practice which is executed by the practice assistant in cooperation with the general practitioner. The care-program COPD-Utrecht supports general practitioners in the diagnosis, prevention and treatment of COPD. **Aims and objectives:** The aim of this study is to (a) investigate the effects of integrated care programs for COPD-patients on the quality of life and (b) to evaluate the effects of the implementation of the care-program COPD-Utrecht on the quality of life and quality of care for COPD-patients, and the experienced labour satisfaction of the care providers. **Subject and methods:** (A) A systematic literature review of controlled trials is performed from January 1995 to September 2005, searching Medline and Embase for keywords related to COPD and quality of life. (B) A multicentred study in general practices in the region. Three groups of general practitioners are compared according to the following classification: 1. Participation care-program COPD-Utrecht and use of Diagnosis for Health method; 2. Participation care-program COPD-Utrecht en no use of Diagnosis for Health method; and 3. No participation care-program COPD-Utrecht and no use of Diagnosis for Health method. COPD-patients of the practices fill out a written questionnaire three times and care providers twice within two years. Patient outcomes are quality of life, dyspnoea, care consumption and health care satisfaction. Labour satisfaction is the main outcome for the care providers. **Results:** The results of the review will be available in March 2006. The multicentred study started in November 2004 and will take three years. The research design will be presented.

Conflict of interest and funding

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ABS60: Use of spirometry for early recognition of COPD in smokers

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Introduction: Some studies have been published on COPD screening with spirometry in primary care. Most of them are based in small samples and ideal situations. They are not representative of primary health care daily routine and do not usually perform reversibility testing. **Aims and objectives:** Early detection of COPD in smokers using office spirometry in a real primary care setting. **Subjects and method:** Smokers aged 40–69 visiting their doctor were included. We excluded patients with previous diagnosis of pulmonary disease, those with inhaled medication and with spirometry in the previous year. A descriptive study measuring socio-demographic variables, smoking habit and life-accumulated tobacco dose, MRC dyspnoea scale and other respiratory symptoms through patient interviews. Spirometry before and after inhaling a dose of 400 micrograms of salbutamol measured FVC, FEV1, FEF 25-75, FEM and FEV1/FVC ratio. **Results:** 212 patients were included, mean age 51 years. 52% were men, 71'3% active working, 26 pack-years on average. 206 tests with reversibility measurement were completed. 33 of them were not valuable. From the remaining 179 valid and negative reversible tests, 35 (20%) fulfilled COPD GOLD criteria. Prevalence was higher in men (28'4% vs 13'2% in women) ($p=0'017$). Mean age and tobacco packs-year were higher in COPD patients ($p=0'026$, $p=0'14$). Fifty four per cent were mild; moderate 43%; and 3% severe. 14 patients with normal spirometry had respiratory symptoms (GOLD 0). Only cough was more frequent in patients with COPD (51'4% vs 28%) ($p<0'001$). **Conclusions:** Screening of COPD with spirometry and reversibility testing is feasible in current general practice. Increasing age, tobacco exposure and cough are good predictors for a positive diagnosis of COPD. Reversibility testing does not add great value to spirometry for COPD screening.

Conflict of interest and funding

None.

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ABS61: A Qualitative study of sleep experiences in subjects with moderate to severe Chronic Obstructive Pulmonary Disease (COPD)

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Introduction: Sleep disturbances are common in COPD and poor sleep reduces quality of life, causing fatigue, a prominent symptom associated with anxiety, depression and inactivity. Research into patients' attitudes and beliefs about sleep experiences can identify the most relevant issues and the need for intervention. **Aims:** To investigate sleep experiences in COPD, in order to (a) design a survey of sleep problems and (b) determine the need for simple interventions (e.g. sleep hygiene education). **Subjects and methods:** Ten subjects (six female) with moderate to severe COPD were recruited by a community specialist nurse. Transcriptions of semi-structured interviews were analysed by mapping key concepts and extracting emergent themes. Questionnaires describing sleep and symptom characteristics: Chronic Respiratory Disease Questionnaire (CRDQ), Hospital Anxiety and Depression Scale (HADS), Pittsburgh Sleep Quality Index (PSQI), Epworth Sleepiness Scale (ESS). **Results:** All subjects were studied. Mean FEV1 predicted 31.8% (+7.7). PSQI: Eight subjects had poor sleep quality, six had severe problems with sleep latency, five with

sleep duration and habitual sleep efficiency; four with subjective sleep quality. Five subjects had some daytime sleepiness (ESS score > 6); four subjects had problems with anxiety and/or depression (HADS). Chronically fragmented sleep patterns were attributed to symptoms (e.g. sputum) and other problems (e.g. noise). Most subjects acknowledged a relationship between good sleep and psychological and physical well being, although few had sought advice on sleep. Some had made lifestyle adjustments. Emergent topics included reduced activity, sleep disturbances, sleep position, not tired, napping, boredom, frustration, medication, and Sleep hygiene. Several suggested a reduced need for sleep due to lack of physical activity and/or tiredness. *Conclusions:* Lack of sleep causes significant concern for many patients with COPD, and some suffer from a lack of professional support. Patient-orientated research can identify needs and direct access to simple interventions.

Conflict of interest and funding

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ABS62: Is well-known COPD, well-treated COPD?

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Introduction: Chronic obstructive pulmonary disease (COPD) is an important problem of public health because of its high prevalence, recurrent visits to primary care, morbidity and mortality and its economic impact [1–3]. *Aims and objectives:* To describe COPD patients, analyze their treatment and evaluate its agreement with current guidelines in an urban Primary Care centre (PCC). *Subjects and methods:* The computerized and paper health history from patients included as having COPD in our primary care computer database confirmed by spirometry was reviewed. We recorded age, sex, smoking habit, forced expired volume in one second (FEV₁), classification according to the "Global Initiative for Chronic Obstructive Lung Disease" (GOLD), treatment (drugs and inhalation systems), anti-smoking counselling (ASC), exacerbations during the year before the review and level of patient care. *Results:* 233 COPD patients, 97% men, middle aged 71.9 (SD10.2), ex-smokers 63%, smokers 36% (ASC30%). GOLD classification: 8,5% at risk, 4% mild, 44,2% moderate, 35,2% severe and 8,2% very severe. 68% patients used regular treatment with bronchodilators (at risk 33%, mild 59%, moderate 78%, severe 80% and very severe 83%, $p < 0,001$), 45,5% with long-acting beta2 agonists (LAB2) (at risk 15%, mild 31%, moderate 43%, severe 72% and very severe 78%, $p < 0,001$), 54% with inhaled corticosteroids (IC) (at risk 19%, mild 38%, moderate 59%, severe 71% and very severe 83%, $p < 0,001$), 36,9% with combination LAB2 + IC (none at risk, mild 2,3%, moderate 37,2%, severe 45,3% and very severe 15,1%, $p < 0,001$), 5,4% with oxygen, 3% with mucolytics, 1% with oral corticosteroids and 1% with pulmonary rehabilitation. Metered dose inhalers (MDI) were used by 60,1%, MDI and spacer 32,2% and dry powder 43,8%. 1–3 exacerbations/year 48% and none 42%. Control in PCC 95,7% (68,2% PCC and 27,5% PCC/pneumologist).

Conclusions:

- Obstruction was mild-to-moderate in most of the patients.
- The beginning of treatment and patient control is done mainly by primary care physicians.
- The great majority of patients use some bronchodilator therapy.
- We must improve the use of regular treatment with bronchodilators and inhaled corticosteroids in mild cases and the greater the severity, the better agreement with the treatment.

Conflict of interest and funding

None.

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ABS63: Pulmonary rehabilitation in the community is effective, but benefits may be distorted by methods of analysis

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Introduction: Pulmonary rehabilitation (PR) programmes are increasingly community based, being run by health professionals who may have limited experience of reporting outcomes. The way patient outcome data is analysed and presented can distort the benefits of PR. PR programme reports are increasingly used to justify investment. It is important that they are accurate. *Aims:* To assess the benefits of community based PR, and compare the impact of two methods of analysis on the magnitude of observed improvements. *Subjects and methods:* COPD patients seen by the Plymouth PR programme: baseline assessment; 7 weekly sessions and follow up.

Outcome Assessments: Shuttle walking test distance (SWT), Chronic Respiratory Disease Questionnaire (CRDQ): Breathing Problems Questionnaire (BPQ) at baseline and 7 weeks.

Analysis of results: of all patients attending at each stage including those who subsequently dropped out (group means) were compared to means of individual changes from baseline.

Results: 183 patients were assessed, 151 completed the programme. Mean FEV₁ at baseline: 1.05 ± 0.4 ($n = 117$).

Mean changes in:

SWT (metres) Group 62.8 m, individual 51.2 m.
Total CRDQ: Group 14.1, individual 13.2;
HADS Anxiety: Group -1.3, individual -1.3
Depression: Group -0.8, individual -0.6.
SBPQ: Group -1.1, individual -0.7.

The mean baseline scores in those who dropped out were lower than means for those who completed the programme, for instance mean SWT of completers was 183 m, but drop outs was 124 m ($p = 0.009$).

Conclusions: Outcome measures from a once weekly, community PR programme demonstrate changes comparable to those of hospital based programmes. The analysis of outcomes should report mean individual changes rather than mean changes between the group attending at baseline and those completing the programme. The difference reflects that those with severe illness are more likely to drop out. This can lead to improvements in outcome being wrongly attributed to the PR programme.

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