Respirology (2005) **10**, 9–17

REVIEW ARTICLE

Global Initiative for Chronic Obstructive Lung Disease strategy for the diagnosis, management and prevention of chronic obstructive pulmonary disease: An Asia–Pacific perspective

THE ASIA PACIFIC COPD ROUNDTABLE GROUP*

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THE ASIA PACIFIC COPD ROUNDTABLE GROUP. *Respirology* 2005; **10**: 9–17

Abstract: Chronic obstructive pulmonary disease (COPD) is a major public health problem and its prevalence and mortality are increasing throughout the world, including the Asia–Pacific region. To arrest these worldwide trends, the Global Initiative for Chronic Obstructive Lung Disease (GOLD) Expert Panel's global strategy for the diagnosis, management, and prevention of COPD was published in 2001. Based on recently published clinical trials, the GOLD statement was updated in 2003. The Asia–Pacific COPD Roundtable Group, a taskforce of expert respirologists from the Asia–Pacific region, has recently formulated a consensus statement on implementation of the GOLD strategy for COPD in the Asia–Pacific region. The key issues identified by the COPD Roundtable Group for comment are: (i) where there is no access to spirometry, diagnosis of COPD could be suspected on the basis of history, symptoms and physical signs; (ii) inhaled bronchodilators are the preferred regular treatment for COPD in the region, but oral bronchodilators may be considered if the cost of inhaled bronchodilators is a barrier to treatment; (iii) the use of an Metered Dose Inhaler with spacer in place of a nebulizer is recommended in the treatment of acute airflow obstruction in patients with COPD; (iv) influenza vaccination is recommended for all patients with COPD in communities where there is a high likelihood of Severe Acute Respitory Syndrome; and (v) simplified pulmonary rehabilitation programmes should be established in areas where comprehensive programmes are unavailable. Physical exercise training and education on smoking cessation should be core elements of any rehabilitation program. In summary, the COPD Roundtable Group supports implementation of the GOLD strategy for the diagnosis, management and prevention of COPD in the Asia–Pacific region, subject to the additions and modifications to the guidelines suggested above.

Key words: Asia, bronchodilators, chronic obstructive pulmonary disease, Global Initiative for Chronic Obstructive Lung Disease statement, influenza vaccination, pulmonary rehabilitation, Severe Acute Respitory Syndrome, spirometry.

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Received 21 February 2004; revised 16 September 2004; accepted for publication 17 September 2004.

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Chronic obstructive pulmonary disease (COPD) is a major public health problem throughout the world. A World Health Organization (WHO)/World Bank study estimated the worldwide prevalence of COPD in 1990 to be 9.33/1000 in men and 7.33/1000 in women.[1,2] COPD was estimated to be the sixth most common cause of death globally,[3] and the twelfth most common cause of burden of disease worldwide.[1] Furthermore, COPD is expected to increase in prevalence and mortality over the coming decades. For example, of the four leading causes of death in the USA, COPD is the only one that continues to increase in prevalence.[4] COPD is also projected to be the fifth greatest cause of worldwide burden of disease in 2020, and the third most common cause of death internationally.[1] COPD is associated with huge economic costs. In the UK for example, COPD accounts for 10% of all working days lost,[5] and in the USA, the estimated annual cost of COPD is over US$30 billion.[6]

COPD IN THE ASIA–PACIFIC REGION

Relatively little is known about the prevalence, morbidity and mortality of COPD in developing countries, including those in the Asia–Pacific region. A recent study in Thailand estimated the prevalence of COPD in 1998 to be 2075 per 100 000 people at risk (smokers aged ≥40 years),[7] but this estimate is based on the number of people hospitalized with COPD and, therefore, represents only the prevalence of moderate to severe disease.

A WHO/World Bank study,[1,2] which estimated the prevalence of COPD in different areas of the world (using informed expert opinion or extrapolations from comparable regions where published data were lacking), suggested that the prevalence of COPD in China in 1990 was 26.2/1000 in males and 23.7/1000 in females. These estimates have been challenged by recent reports of an overall COPD prevalence of 3.0% (30 per 1000 people aged ≥15 years) in three regions of China.[8] The WHO/World Bank study also estimated a COPD prevalence of 2.89/1000 in males and 1.79/1000 in females in 1990 for 'other Asia and Islands' (an amalgam of 49 countries and island states in the Asia–Pacific region).[1,2] Furthermore, data from that study were used to extrapolate a COPD prevalence figure of 3.8% (38 per 1000 people) for the entire Asian population.[3] These estimates, which are not necessarily based on actual epidemiological data, do not provide reliable information about the precise prevalence of COPD in the Asia–Pacific region. This in turn means that governments are unaware of the regional economic and human impact of COPD, and are, therefore, unable to plan effective strategies for reducing the burden of disease.

Large-scale, population-based, epidemiological studies are logistically difficult and expensive to conduct. An alternative method for assessing COPD prevalence that makes use of a well-validated[9] computerized tool for predicting prevalence on the basis of local COPD risk factor data (prevalence of smoking, exposure to biomass fuel, air pollution, high-risk occupations etc.) has shown that the overall prevalence of clinically significant COPD amongst adults ≥ 30 years old in the Asia–Pacific region is approximately 6.3%.[10] These data suggest that COPD is a more significant problem in the region than has been previously realised. Furthermore, trends in risk factors (increased incidence of smoking, greater longevity with associated increased risk of succumbing to chronic diseases such as COPD, and increased exposure to environmental pollution) suggest that the prevalence of COPD in the Asia–Pacific region is likely to increase over coming years.

GLOBAL INITIATIVE FOR CHRONIC OBSTRUCTIVE LUNG DISEASE GLOBAL STRATEGY FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE

In 1997, an international group of COPD experts met to discuss the development of a Global Initiative for Chronic Obstructive Lung Disease (GOLD). Co-sponsored by the US National Institutes of Health (Heart, Lung, and Blood Institute (NHLBI)) and WHO, the GOLD Expert Panel consisted of health professionals from around the world with expertise in respiratory medicine, epidemiology, socioeconomics, public health, and health education. The model for this initiative was the Global Initiative for Asthma (GINA), an international strategy for developing comprehensive evidence-based guidelines on asthma control and management, using a committee of experts.[11]

The GOLD Expert Panel agreed that the objectives of GOLD should be to increase awareness of COPD (amongst governments, public health officials, healthcare workers, and the general public), improve prevention and management of the disease, decrease COPD morbidity and mortality, and encourage new research into the disease. In 1998, the GOLD Expert Panel conducted a workshop to review existing COPD guidelines and advances in understanding of the disease, the ultimate aim being to prepare a consensus guidelines document/global strategy for the diagnosis, management, and prevention of COPD. This was published, in both full Workshop Report[12] and Executive Summary[13] forms, early in 2001. Updated GOLD guidelines,[14,15] based on clinical research published from June 2000 to March 2003 that has had an impact on the management of COPD, were published in July 2003. These reports present evidence-based guidelines on COPD diagnosis and management, and, importantly, include grades (A, B or C) for the weight of scientific evidence supporting each recommendation.

The GOLD strategy presents a COPD management plan divided into four components: (i) assessment and monitoring of disease; (ii) reduction of risk factors; (iii) management of stable COPD; and (iv) management of exacerbations.

Information and recommendations presented in the GOLD report are based on 'best-validated current concepts of COPD pathogenesis and the available evidence on the most appropriate management and prevention strategies'.[13] The content of the report was

developed by experts in COPD research and clinical management, then extensively reviewed by other experts, scientific societies, the NHLBI and WHO, before publication. GOLD guidelines are to be audited after implementation to assess the impact of the programme on outcomes.

The updated GOLD guidelines include the following changes: (i) the classification system has been modified to: I = mild, II = moderate, III = severe, IV = very severe; (ii) for moderate to very severe COPD, the use of regular treatment with long-acting bronchodilators, including tiotropium, rather than short-acting bronchodilators is recommended (evidence level A); (iii) inhaled glucocorticosteroids are recommended only in patients with COPD of severity III and frequent exacerbations (evidence level A); (iv) rehabilitation programmes should be ≥ 2 months in duration (evidence level B); and (v) nurse-administered home care represents an effective and practical alternative to hospitalization in selected patients with exacerbations of COPD without acidotic respiratory failure.

While the GOLD recommendations are intended to have universal applicability, the Expert Panel drew attention to some possible difficulties in the implementation of GOLD recommendations in developing countries. Thus, the GOLD Expert Panel noted: that 'reproducible and inexpensive exercise-testing methodologies . . . suitable for use in developing countries need to be evaluated and their use encouraged'; that 'spirometers need to be developed that can ensure economical and accurate performance when a relatively untrained operator administers the test'; and that 'methods and strategies for implementation of COPD management programs in developing countries will require special attention'.[12] Thus, the GOLD Expert Panel acknowledged that some aspects of the GOLD guidelines may require amendments to ensure their relevance, applicability and usefulness in developing countries. In the Asia–Pacific region, this task has been taken up by the Asia–Pacific COPD Roundtable Group.

THE ASIA–PACIFIC CHRONIC OBSTRUCTIVE PULMONARY DISEASE ROUNDTABLE GROUP

The COPD Roundtable Group is a taskforce of expert respirologists from the Asia–Pacific region that has met 1–2 times per year since July 1999. The COPD Roundtable Group has the support of the Asia–Pacific Society of Respirology (APSR) and is supported by an educational grant from Boehringer Ingelheim and Pfizer. The main objectives of the COPD Roundtable Group are to: (i) increase awareness of COPD in the region; (ii) assess the regional relevance and applicability of the GOLD guidelines and facilitate their implementation; (iii) identify COPD-related problems specific to the region for discussion and resolution; (iv) stimulate regional collaborative research into COPD.

As noted above, however, one of the main reasons for the establishment of the COPD Roundtable Group was to facilitate regional implementation of GOLD guidelines; to this end, the Roundtable Group has developed a consensus statement on the implementation of the GOLD strategy for COPD in the Asia–Pacific region.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE ROUNDTABLE GROUP REGIONAL CONSENSUS STATEMENT ON GLOBAL INITIATIVE FOR CHRONIC OBSTRUCTIVE LUNG DISEASE GUIDELINES

The relevance and practicality of the GOLD recommendations for the region were considered by the COPD Roundtable Group at several meetings. During this review process, Roundtable members focused on the implications of implementing the GOLD strategy in their own countries, taking into account both local published data and members' experience of COPD diagnosis, management and prevention in the region. On the basis of these deliberations, the COPD Roundtable Group concluded that implementation of GOLD recommendations would be very useful in the Asia–Pacific region. Particular strengths of the GOLD strategy identified by the Roundtable included: (i) the emphasis on the need for spirometry in the diagnosis and assessment of COPD; and (ii) the inclusion of a disease severity classification which recognized the importance of intervention at a presymptomatic disease stage. The COPD Roundtable Group also endorses the GOLD guidelines on smoking cessation and in view of the immense burden of smoking-related COPD in the Asia–Pacific region believes that greater efforts to achieve smoking prevention and cessation should be encouraged in this part of the world.

In addition, the COPD Roundtable Group identified that some aspects of the GOLD Guidelines require amendment to suit the needs of the region. These amendments are discussed below.

When spirometry is unavailable

The GOLD document unequivocally identifies spirometry as the gold standard for the diagnosis and assessment of COPD because it is the most reproducible, standardized, and objective way of measuring airflow limitation. Specifically, a FEV_1 to FVC ratio of <70%, together with a postbronchodilator FEV_1 of <80% predicted, confirms the presence of an airflow limitation that is not fully reversible. GOLD also states that 'health care workers involved in the diagnosis and management of COPD patients should have access to spirometry'.[12,13]

The COPD Roundtable Group fully supports this recommendation and encourages the use of spirometry for the diagnosis and assessment of COPD patients in the Asia–Pacific region. However, the Roundtable Group also notes that, for a number of reasons (e.g. costs, inaccessibility, lack of awareness,

lack of technical knowledge etc.), spirometry is unavailable to large numbers of patients in many Asian countries. The GOLD guidelines state: 'Where spirometry is unavailable, the diagnosis of COPD should be made using all available tools'. Therefore, for the Asia–Pacific region, the COPD Roundtable Group recommends addition of the following statement to the GOLD guidelines relating to the diagnosis and assessment of COPD.

Key message

Where there is no access to spirometry, the diagnosis of COPD could be suspected on the basis of history, symptoms and physical signs.

Additional comments

1 If spirometry is not available, peak flow measurements can be used to exclude asthma but not to diagnose COPD.
2 A forced expiratory time (FET, which is the time taken for an individual to forcefully exhale through an open mouth, from total lung capacity until airflow becomes inaudible. The time taken to exhale should be recorded with a stopwatch; ≥6 s is abnormally prolonged)[†] >6 s is a good guide to the presence of an FEV_1/FVC ratio <50% (i.e. obstructive disease).
3 While chest X-rays are not recommended for diagnosing COPD, they can be useful for excluding other common diseases that can give rise to airway obstruction (e.g. tuberculosis, bronchiectasis, lung cancer etc.).
4 Because there is very little correlation between peak flow measurement and symptoms in longitudinal studies of COPD patients and COPD patients can have improvements in symptoms and quality of life without improvements in lung function, the group does not recommend the use of serial measurements of peak flow to assess or monitor any response to therapy.
5 The MRC Dyspnoea Scale, while not used for diagnosis of COPD, is a functional scale that is useful for assessing shortness of breath and disability, and can assist in the evaluation of disease severity.[16]

Use of oral bronchodilators

GOLD recommends inhaled bronchodilators as the preferred option for symptomatic management in stable COPD, either as regular treatment or on an as-needed basis.[12,13] Bronchodilator therapy prevents symptoms or reduces their severity, but does not modify the decline in lung function in COPD.[12] Inhaled bronchodilator therapy is preferred over oral therapy because lower doses are needed to achieve a therapeutic response, and because adverse effects are less likely to occur, and resolve more rapidly after treatment withdrawal.[12]

The COPD Roundtable Group supports the promotion of inhaled therapy as the preferred route of bronchodilator delivery for COPD patients in the region. However, the Roundtable Group also notes that, in some Asia–Pacific settings, where the cost of therapy is not reimbursed and the patient has limited financial resources, oral bronchodilator treatment may be less expensive and is, therefore, an appropriate alternative to inhaled therapy. While emphasising that inhaled bronchodilators remain the preferred option (as stated in GOLD), the COPD Roundtable Group recommends addition of the following statement to the GOLD guidelines relating to use of bronchodilators in the treatment of stable COPD.

Key message

Wherever possible, COPD patients should receive bronchodilator therapy via the inhaled route. However, oral bronchodilators (β-agonists, theophylline) may be appropriate if the cost of inhaled bronchodilators is a barrier to treatment.

Use of spacers before nebulizers in chronic maintenance

The GOLD report notes:

> when treatment is given by the inhaled route, attention to effective drug delivery and training in inhaler technique is essential. COPD patients may have more problems in effective coordination and find it harder to use a simple Metered Dose Inhaler (MDI) than do healthy volunteers or younger asthmatics. It is essential to ensure that inhaler technique is correct and to recheck this at each visit.[12]

Patients who have been prescribed drugs using MDI and have trouble mastering inhaler technique should attempt to use a spacer with the MDI. The COPD Roundtable Group notes that use of spacers results in more efficient delivery of bronchodilator to the lungs compared to use of the MDI alone, particularly in patients who have not mastered the correct inhaler technique. Furthermore, this approach is as effective as nebulized drug delivery in patients who have been taught how to use a spacer plus a MDI correctly.[17]

In these patients, alternative inhaler devices may also be tried to optimize the benefits of inhaled therapy. For example, dry powder inhalers (DPI) are breath activated and do not require the same level of hand-and-mouth coordination as MDI, so some COPD patients may find these easier to use.

For these reasons, the COPD Roundtable Group recommends addition of the following statements to the GOLD guidelines relating to use of bronchodilators in the treatment of stable COPD.

Key message

Patients who have difficulty mastering inhaler technique with the MDI should try the use of a spacer with

the MDI. Different types of spacers and inhaler devices should be experimented with in an attempt to identify a device that the patient can use easily and effectively.

As with inhaler technique, patients require training in how to use a spacer effectively. This approach is more convenient than recommending treatment with a nebulizer. Nebulizers may not be available for many COPD patients in the Asia–Pacific region because they are expensive, require set-up, a power source and filling with a nebulizer solution. Furthermore, in areas that are affected by Severe acute respiratory syndrome (SARS), it is thought that the risk of transmission of the virus may be reduced by the use of spacer devices.

Severe acute respiratory syndrome in the Asia–Pacific region

The Asia-Pacific region was severely affected by an epidemic of SARS caused by a new coronavirus, with far-reaching health, societal and economic costs. The epidemic peaked in February to May 2003.[18] While the epidemic of SARS has now been brought under control, the WHO warns that in the absence of a vaccine and a cure the possibility of a seasonal recurrence cannot be ruled out.[19] It is important that SARS is differentiated from other respiratory diseases, particularly from the 'triggers or mimics' of an acute exacerbation of COPD. Currently, there is no gold standard for diagnosis, which usually encompasses suspicion, isolation and then empirical use of antibiotics and supportive treatment. SARS is thought to be transmitted via droplets and close contacts. However, airborne and other modes of transmission cannot be excluded.[20] For this reason it is recommended that nebulized treatment in patients with COPD be avoided. The use of spacer devices may help to reduce this risk.[21]

Key message

The use of an MDI with spacer in place of a nebulizer is recommended in the treatment of acute airflow obstruction in patients with COPD in an attempt to reduce the risk of droplet transmission of respiratory infection such as SARS.

Additional comments

1 SARS should be considered in the differential diagnosis of an acute exacerbation of COPD and if SARS is suspected the patient should be triaged accordingly.
2 It is recommended that bronchodilator treatment should not be delayed or denied in patients with COPD.
3 In treating patients who are experiencing an acute exacerbation it is important to ensure that the bronchodilator dosage is adequate and titrated at frequent intervals based on patient response, when using a spacer instead of a nebulizer.[22]
4 It is recommended that appropriate ventilatory support should not be delayed or denied in patients with COPD.
5 The burden of suspected SARS should be reduced by influenza vaccination of COPD patients.

Role of influenza vaccination

The GOLD Expert Panel cites category A evidence that influenza vaccination can reduce serious illness and death in COPD patients by approximately 50%. In light of this evidence, GOLD recommends vaccination against influenza for all patients with COPD. Vaccines that contain killed or live, inactivated viruses should be used since these have been shown to be more effective in elderly patients with COPD. The GOLD guidelines add that influenza strains are adjusted annually for appropriate effectiveness and should be given once (in autumn) or twice (in autumn and winter) each year.[12,13]

The COPD Roundtable Group notes that influenza vaccination is not routinely offered to COPD patients in Asia, but is given by some pulmonologists or in response to patient requests. Furthermore, a review of the literature shows that there is a knowledge gap with respect to use of influenza vaccination in the region, particularly in patients with COPD. In early deliberations there were some reservations regarding vaccination of COPD patients. However, this has been re-evaluated in the context of new information from recent clinical trials of the efficacy of influenza vaccination and the SARS epidemic within the Asia–Pacific region.[23–25] With these considerations in mind, the COPD Roundtable Group recommends addition of the following statements to the GOLD guidelines relating to influenza vaccination in patients with COPD.

Key message

Influenza vaccination is highly recommended for all COPD patients within the Asia–Pacific region where there could be a recurrence of SARS which mimics the clinical presentation of influenza. Patients should be vaccinated 1–2 months prior to the anticipated peak incidence of influenza.

Additional comments

While the COPD Roundtable Group recommends vaccination of all patients with COPD in communities where there is a high likelihood of SARS, there remain some issues regarding the implementation of influenza vaccination for COPD patients in the Asia–Pacific region, for the following reasons: (i) low surveillance data from tropical countries; (ii) apparent lack of bimodal seasonality in tropical countries; (iii) uncertainty of appropriate frequency or timing of vaccines; (iv) the presence of two potential vaccine

formulations to coincide with influenza strains emerging in February and September; (v) limited efficacy data on vaccination in tropical countries; and (vi) lack of cost-effectiveness and cost-savings studies.

In countries with bimodal peaks or a relative lack of seasonality of influenza infection, the choice of when to vaccinate is left to physicians.

Role of pulmonary rehabilitation

GOLD lists the main goals of pulmonary rehabilitation programmes in patients with COPD as reduction of symptoms, improved quality of life, and increased physical and emotional participation in everyday activities.[15] These goals are achieved by attending to problems such as exercise deconditioning, social isolation, depression/other mood disturbances, muscle wasting, and weight loss. Since these problems particularly affect patients with stage II (moderate), stage III (severe) or stage IV (very severe) COPD, GOLD recommends that patients in these subgroups should be enrolled in pulmonary rehabilitation programmes.[12,13] However, the GOLD guidelines also point out that category A evidence indicates that COPD patients at all stages of disease benefit (in terms of exercise tolerance and symptoms of dyspnoea and fatigue) from exercise training programmes.[12,13]

As noted in the GOLD document, pulmonary rehabilitation has been carefully evaluated in a large number of clinical trials.[15] These have yielded category A evidence that pulmonary rehabilitation improves exercise capacity, reduces perceived intensity of breathlessness, improves health-related quality of life, reduces the number of hospitalizations and days in hospital, and reduces anxiety and depression associated with COPD.[15] There is also category B evidence that pulmonary rehabilitation improves arm function with strength and endurance training of the upper limbs, provides benefits that extend well beyond the immediate period of training (provided home exercise training is continued after the programme ends), and improves survival in patients with COPD.[15]

The GOLD guidelines also note that pulmonary rehabilitation programmes ideally involve several types of health professionals.[15] However, significant benefits can also be attained by more limited personnel, so long as the healthcare professionals concerned are aware of the needs of individual patients. The updated GOLD guidelines recommend a duration of ≥2 months for pulmonary rehabilitation. A comprehensive pulmonary rehabilitation programme includes:

1 *Exercise training*: as assessed by 10 to 45-min sessions of bicycle ergometry, treadmill exercise, walking tests etc., at up to 50% peak oxygen consumption or until symptoms intervene, on a daily to weekly basis.

2 *Nutrition counselling*: nutritional state is an important determinant of symptoms, disability and prognosis in COPD, with both overweight and underweight patients potentially having problems. However, nutritional therapy without an accompanying exercise regimen may not be helpful.

3 *Education*: while education of the patient is a component of most pulmonary rehabilitation programmes, its specific contribution to the improvements seen after pulmonary rehabilitation remain unclear.

The GOLD guidelines also emphasize that baseline and outcome assessments should be made for each participant in a pulmonary rehabilitation programme so that individual gains can be quantified and appropriate areas targeted for improvement.[15] Assessments should include history and physical examination, pre- and post-bronchodilator spirometry, exercise capacity, health status and the impact of breathlessness, inspiratory and expiratory muscle strength, and possibly lower limb strength in patients with muscle wasting.[15]

The COPD Roundtable Group recognizes that pulmonary rehabilitation is one of the most effective management strategies for patients with COPD. Therefore, its use and benefits should be promoted to COPD patients, healthcare professionals, funding agencies, and governments in the region. Unfortunately, comprehensive pulmonary rehabilitation programmes, as described in GOLD, are beyond the means of many Asian healthcare systems and, therefore, unavailable to most patients in the region. Indeed, the difficulties of providing pulmonary rehabilitation programmes in developing countries, with reduced resources available for healthcare, may be better appreciated when it is considered that in a developed country such as Canada, < 2% of the COPD population per annum has access to pulmonary rehabilitation programmes.[26]

Physicians in the Asia–Pacific region who are unable to refer COPD patients to established pulmonary rehabilitation programmes are unlikely to be able to organize the complex, multidisciplinary types of programmes described in the literature. However, they may be able to organize the 'next best' alternative, that is, less complicated programmes which include only the most important components of pulmonary rehabilitation. Minimum elements of pulmonary rehabilitation which could be made available in simplified programmes involving limited numbers and types of healthcare professionals include: (i) basic exercise tests, for example, 6-min walking distance tests; (ii) regular (daily if possible) exercise, for example, walking to a symptom-limited maximum, then resting, then continuing to walk until 20 min of exercise has been completed; and (iii) educating patients about how to minimize exposure to other COPD risk factors, such as smoking, indoor air pollution due to biomass fuels and occupational hazards.

The above measures, which could be included in simplified pulmonary rehabilitation programmes, would be expected to benefit COPD patients who do not have access to more intensive and complete programmes.[27] On this point, it is pertinent to note that pulmonary rehabilitation programmes conducted in the home have been associated with benefits for COPD patients.[12,13]

With the above considerations in mind, the COPD Roundtable Group recommends addition of the following statements to the GOLD guidelines relating to pulmonary rehabilitation in patients with COPD.

Key message

Although there is limited evidence within the region, simplified pulmonary rehabilitation programs which include the crucial elements of regular exercise training and patient education have been found to be workable and are recommended.

Additional comments

1 Exercise training programs involving simple, structured elements (a baseline 6-min walking test to determine workload requirements, followed by regular sessions of walking for 20 min and, ideally, upper limb exercises) are pivotal to the success of a pulmonary rehabilitation program.
2 Patient education initiatives may be undertaken by trained physiotherapists to improve patient awareness of the importance of smoking cessation in the management of COPD. Such initiatives will aid in enhancing patient co-operation and improving rapport between the patient and physiotherapist.

DISCUSSION

The GOLD strategy for the diagnosis, management and prevention of COPD is an important initiative which is relevant and useful for the Asia–Pacific region. The COPD Roundtable Group agrees with the content and recommendations of the GOLD strategy, and supports implementation of the programme as a means of helping to prevent COPD and improving diagnosis and management of the disease in the region. The only respects in which the views of the COPD Roundtable Group diverge from those of the GOLD guidelines are expressed in the specific modifications outlined in the text above.

As noted, the COPD Roundtable Group statement on the GOLD guidelines represents the consensus view of members of the group. Before publication, however, the statement was presented as a 'working document' for discussion/feedback at the October 2002 meeting of APSR in Taipei.

Clarification of some of the key messages articulated by the COPD Roundtable Group may be warranted to avoid misinterpretation. With regard to spirometry, the Roundtable Group is keen to emphasize both the key role of this tool for diagnosing and assessing COPD, and the pressing need for greater availability of spirometers in the region. The Roundtable Group urges that the GOLD recommendations on this issue be used to mount pressure not only on regional governments and health funding agencies to finance wider access to spirometry in the region, but also on manufacturers to provide cheap but efficient spirometers. However, economic considerations are not the only barriers to use of spirometry in Asian countries; others include lack of demand for/recognition of the need for spirometric testing (by patients, healthcare professionals, and health administrators/policymakers), lack of technical knowledge and expertise in the use of spirometers, and inappropriate emphasis on reporting, diagnosing and managing symptoms (as opposed to lung function) in patients with COPD. For these reasons, it is vital to note that the COPD Roundtable Group recommends that a diagnosis of COPD can be suspected on the basis of symptoms, physical signs and history only when spirometry is unavailable. The other important implication of this statement is that diagnosis of COPD by repeat peak expiratory flow measurements or chest X-ray appearances in these circumstances is not recommended.

Similarly, none of the other recommendations made by the COPD Roundtable Group should be interpreted as contravening GOLD recommendations. The Roundtable Group notes that the inhaled route is the preferred means of bronchodilator delivery for COPD patients. Oral bronchodilators should only be used when there is no affordable inhaled alternative for the patient. Similarly, the Roundtable Group agrees that enrolment of COPD patients in 'standard' pulmonary rehabilitation programmes is the preferred option, and one which should be promoted as much as possible, but suggests that participation in a simplified programme is better than no pulmonary rehabilitation at all.

With respect to experimenting with spacers before using nebulizers, this is also consistent with the discussion of bronchodilator therapy presented in the full Workshop Report of the GOLD strategy.[12] This approach should be tried in patients who are unable to master inhaler technique with a MDI. Health professionals caring for COPD patients should take the time to educate patients about correct inhaler technique and to check on correct technique during follow-up consultations. In some countries such as the Philippines, there is a high rate of nebulizer use, and this has prompted the COPD Roundtable Group to include a specific endorsement of the use of spacer devices before resorting to nebulization.

Finally, GOLD recommends influenza vaccination for all patients with COPD, and in light of the recent SARS epidemic the COPD Roundtable Group supports this recommendation. However, because of limited evidence regarding influenza vaccination within the Asia–Pacific region, the Roundtable Group suggests that in countries which lack seasonality of influenza, the choice of vaccination should be left to physicians.

Adherence to COPD guidelines has been shown to not only improve clinical outcomes but also to lower healthcare costs in a US teaching hospital setting.[24] While findings from studies conducted in developed countries cannot automatically be extrapolated to healthcare systems in developing countries, the COPD Roundtable Group considers that implementation of the GOLD strategy for prevention, diagnosis

and management of COPD in the Asia–Pacific region would confer similar types of clinical and economic benefits. It is hoped that the additions and modifications to the GOLD guidelines suggested by the COPD Roundtable Group will further enhance the applicability and usefulness of these guidelines in the region. Finally, the COPD Roundtable Group acknowledges that there is a need for regional studies evaluating these consensus recommendations. Clinical data, for example, on the efficacy of pulmonary rehabilitation programmes and the diagnosis of COPD with or without spirometry, will lend support to and enable further refinement of this consensus statement.

Conflict of interest

Unconditional educational grants from Boehringer Ingelheim and Pfizer covered the costs of the Group's meetings and the writing of the consensus statement. The deliberations of the Group were free of any influence from the funding companies. Members of The Asia Pacific COPD Roundtable Group have acted as consultants for several pharmaceutical companies, including Boehringer Ingelheim and Pfizer, and have spoken at meetings sponsored by pharmaceutical companies, including Boehringer Ingelheim and Pfizer.

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