

QUALITY OF TUBERCULOSIS CARE IN INDIA: A SYSTEMATIC REVIEW

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BACKGROUND: While Indian studies have assessed care providers' knowledge and practices, there is no systematic review on the quality of tuberculosis (TB) care.

METHODS: We searched multiple sources to identify studies (2000–2014) on providers' knowledge and practices. We used the International Standards for TB Care to benchmark quality of care.

RESULTS: Of the 47 studies included, 35 were questionnaire surveys and 12 used chart abstraction. None assessed actual practice using standardised patients. Heterogeneity in the findings precluded meta-analysis. Of 22 studies evaluating provider knowledge about using sputum smears for diagnosis, 10 found that less than half of providers had correct knowledge; 3 of 4 studies assessing self-reported

practices by providers found that less than a quarter reported ordering smears for patients with chest symptoms. In 11 of 14 studies that assessed treatment, less than one third of providers knew the standard regimen for drug-susceptible TB. Adherence to standards in practice was generally lower than correct knowledge of those standards. Eleven studies with both public and private providers found higher levels of appropriate knowledge/practice in the public sector.

CONCLUSIONS: Available evidence suggests suboptimal quality of TB care, particularly in the private sector. Improvement of quality of care should be a priority for India.

KEY WORDS: TB; India; quality of care; International Standards for TB Care

ASTHMA AND COPD OVERLAP SYNDROME IS ASSOCIATED WITH INCREASED RISK OF HOSPITALISATION

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BACKGROUND: Chronic obstructive pulmonary disease (COPD) is associated with poor prognosis and a high health care burden. The incidence of asthma and COPD overlap syndrome is increasing, and contributes to a high financial burden and poor prognosis.

OBJECTIVE: To investigate clinical features of the overlap syndrome among Asian patients and to analyse its impact on hospitalisation due to respiratory problems or death compared to COPD alone.

DESIGN: We performed a retrospective cohort analysis of 2933 COPD patients presenting at the Asan Medical Center from 1 January 2000 to 31 December 2009. Kaplan-Meier and Cox proportional hazard models were used to analyse the significance of clinical parameters, including age, sex, smoking history, body mass index (BMI), severity of airflow

limitation, airway obstruction reversibility and overlap syndrome with hospitalisation due to respiratory problems or death.

RESULTS: Overlap syndrome patients were older, included smaller proportions of males and of smokers and had lower forced expiratory volume in 1 s (FEV1) (% predicted). Shorter hospitalisation-free and survival periods were noted among overlap syndrome patients. Overlap syndrome was significantly associated with risk of hospitalisation due to respiratory problems after adjusting for age, smoking history, BMI, FEV1 (% predicted) and changes in FEV1 ($P < 0.001$).

CONCLUSION: Asthma and COPD overlap syndrome is associated with a higher risk of hospitalisation due to respiratory problems than COPD alone

IS IT BETTER TO ADD LONG-ACTING MUSCARINIC ANTAGONISTS OR LONG-ACTING BETA2-AGONISTS TO INHALED CORTICOSTEROIDS FOR PEOPLE WITH UNCONTROLLED ASTHMA?

Background: Poorly controlled asthma and preventable exacerbations place a significant strain on healthcare, often requiring additional medications, hospital stays or treatment in the emergency department.

Long-acting beta₂-agonists (LABA) are the preferred add-on treatment for adults with asthma whose symptoms are not well controlled on inhaled corticosteroids (ICS), but have important safety concerns in asthma. Long-acting muscarinic antagonists (LAMA) have confirmed efficacy in chronicobstructive pulmonary disease and are now being considered as an alternative add-on therapy for people with uncontrolled asthma.

Objectives: To assess the efficacy and safety of adding a LAMA to ICS compared with adding a LABA for adults whose asthma is not well controlled on ICS alone.

Search Strategy: We searched the Cochrane Airways Group's Specialised Register (CAGR) from inception to April 2015, and imposed no restriction on language of publication. We searched additional resources to pick up unpublished studies, including ClinicalTrials.gov, World Health Organization trials portal, reference lists of primary studies and existing reviews, and manufacturers' trial registries. The most recent search was conducted in April 2015.

Selection Criteria: We searched for parallel and cross-over RCTs in which adults whose asthma was not well controlled with ICS alone were randomised to receive LAMA add-on or LABA add-on for at least 12 weeks.

Data Collection and Analysis: Two review authors independently screened the electronic and additional searches and extracted data from study reports. We used Covidence for duplicate screening, extraction of study characteristics and numerical data, and risk of bias ratings.

The pre-specified primary outcomes were exacerbations requiring oralcorticosteroids (OCS), quality of life

and serious adverse events.

Main Results: We included eight studies meeting the inclusion criteria, but four double-blind, double-dummy studies of around 2000 people dominated the analyses. These four trials were between 14 and 24 weeks long, all comparing tiotropium (usually Respimat) with salmeterol on top of medium doses of ICS.

Studies reporting exacerbations requiring OCS showed no difference between the two add-ons, but our confidence in the effect was low due to inconsistency between studies and because the confidence intervals (CI) included significant benefit of either treatment (odds ratio (OR) 1.05, 95% CI 0.50 to 2.18; 1753 participants; 3 studies); three more people per 1000 might have an exacerbation on LAMA, but the CIs ranged from 29 fewer to 61 more. Imprecision was also an issue for serious adverse events and exacerbations requiring hospital admission, rated low (serious adverse events) and very low quality (exacerbations requiring hospital admission), because there were so few events in the analyses.

People taking LAMA scored slightly worse on two scales measuring quality of life (Asthma Quality of Life Questionnaire; AQLQ) and asthma control (Asthma Control Questionnaire; ACQ); the evidence was rated high quality but the effects were small and unlikely to be clinically significant (AQLQ: mean difference (MD) -0.12, 95% CI -0.18 to -0.05; 1745 participants; 1745; 4 studies; ACQ: MD 0.06, 95% CI 0.00 to 0.13; 1483 participants; 3 studies).

There was some evidence to support small benefits of LAMA over LABA on lung function, including on our pre-specified preferred measure trough forced expiratory volume in one second (FEV₁) (MD 0.05 L, 95% CI 0.01 to 0.09; 1745 participants, 4 studies). However, the effects on other measures varied, and it is not clear whether the magnitude of the differences were clinically significant.

More people had adverse events on LAMA but the difference with LABA was notstatistically significant.

PULMONARY REHABILITATION FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Chronic obstructive pulmonary disease (COPD) describes a chronic lung condition that prevents the air supply from getting to the lungs. Symptoms include breathlessness, coughing, tiredness and frequent chest infection. Worldwide, COPD is a major cause of ill health.

Pulmonary rehabilitation programmes include exercise as a key component; some programmes contain other interventions such as assessment, education, psychological support and dietary advice. Pulmonary rehabilitation is one of the key recommended approaches in the treatment of COPD. This review compared the impact of pulmonary rehabilitation versus usual care on the health-related quality of life of people with COPD. We included 65 studies involving 3822 participants. Participants were randomly assigned to receive pulmonary rehabilitation or usual care. The quality of the studies was generally good.

This review highlights that pulmonary rehabilitation improves the health-related quality of life of people with COPD. Results strongly support inclusion of pulmonary rehabilitation as part of the management and treatment of patients with COPD.

Future studies should concentrate on identifying the most important components of pulmonary rehabilitation, the ideal length of a programme, the intensity of training required and how long the benefits of the programme last.

Authors' conclusions: Pulmonary rehabilitation relieves dyspnoea and fatigue, improves emotional function and enhances the sense of control that individuals have over their condition. These improvements are moderately large and clinically significant. Rehabilitation serves as an important component of the management of COPD and is beneficial in improving health-related quality of life and exercise capacity. It is our opinion that additional RCTs comparing pulmonary rehabilitation and conventional care in COPD are not warranted. Future research studies should focus on identifying which components of pulmonary rehabilitation are essential, its ideal length and location, the degree of supervision and intensity of training required and how long treatment effects persist. This endeavour is important in the light of the new subgroup analysis, which showed a difference in treatment effect on the CRQ between hospital-based and community-based programmes but no difference between exercise only and more complex pulmonary rehabilitation programmes.

MANAGEMENT OF ASTHMA IN RESOURCE-LIMITED SETTINGS: ROLE OF LOWCOST CORTICOSTEROID/B-AGONIST COMBINATION INHALER

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The management of asthma requires medicines that are effective in relaxing airway smooth muscles and in reducing airway inflammation. Rapid-acting β_2 agonist is a bronchodilator that provides quick symptom relief in patients with asthma. However, it does not effectively address the underlying problem of airway inflammation. Excess use of inhaled bronchodilators alone for symptom relief may result in delay in seeking health care, which in turn may result in delayed use of anti-inflammatory agents. Inhaled corticosteroid (ICS) is critical in the treatment of airway inflammation; it reduces the risk of life-threatening asthma attacks and the need for hospitalisation. ICS is underused, however, and a substantial proportion of patients with persistent asthma in resource-limited settings have no access to affordable ICS for long-term treatment. International

guidelines recommend the use of rapidacting β -agonists as needed as rescue treatment when symptoms occur. Studies have shown that the use of both ICS and rapid-acting β -agonist as needed for symptom relief might be a better option. The combination of ICS and rapid-acting bronchodilator in a single inhaler is currently too expensive and is not affordable for the poor. Although ICS and short-acting β_2 agonist (SABA) for rescue treatment can be obtained to a certain extent by using separate ICS and SABA inhalers, the first step is to ensure access to affordable, quality-assured essential asthma medicine in resourcelimited settings.

KEY WORDS: access; case management; developing countries; essential drugs