Primary prevention of asthma and chronic obstructive pulmonary disease at the primary healthcare level: rapid policy brief

Key Policy Considerations

Asthma and COPD are significant contributors to mortality and morbidity and have shown an increasing trend in incidence since the past two decades in India. Policy considerations for primary prevention are summarised in three sub-sections - specific considerations for asthma and COPD, followed by smoking cessation-related considerations. Smoking is a key risk factor that needs to be addressed for both the conditions.

Primary prevention for Asthma

1. Parents should be advised to ensure that children are not exposed to environmental tobacco smoke during pregnancy or after birth.
2. Caesarean section increases the risk of childhood asthma. Vaginal delivery should be encouraged, unless medically indicated.
3. Exclusive breastfeeding, where possible is recommended for its overall health benefits.
4. Doctors should advise parents to avoid use of broad spectrum antibiotics during the first year of a child's life.
5. Lifestyle modification, including guided weight-loss programmes, exercise and diet should be offered in primary health care centres to obese and overweight children.
6. Dietary restrictions, unguided weight loss or changes during pregnancy should be discouraged for primary prevention of asthma in children.
7. Allergen avoidance as a general strategy for the primary prevention of asthma should be discouraged.

Primary prevention of chronic obstructive pulmonary disease (COPD)

1. Identification and reduction of exposure to risk factors (low birth weight, poor nutrition, acute respiratory infections of early childhood, indoor, outdoor and occupational air pollution) are recommended for primary prevention of COPD.

What is a rapid policy brief?

A rapid policy brief is based on a rapid evidence synthesis which brings together global research evidence in a specific decision-making context. A rapid evidence synthesis is a rapid review of global evidence in a systematic manner to inform local context and decisions about health systems and policies. These are on-demand and with reference to a specific health policy and systems decision. This policy brief reviews existing guidelines.

Why this rapid policy brief was prepared?

This was prepared on request from the State Health Resource Centre, Chhattisgarh, India.

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2. At-risk persons such as pregnant women should avoid exposure to occupational and environmental pollution, including passive tobacco smoke exposure.
3. Community awareness and multi-sectoral co-ordination are required to prevent indoor air pollution (usually from wood and coal for cooking). Provisions of the Ujjwala Yojana should be used to provide and encourage LPG connections. Additional provisions beyond the free cylinders limit should be considered by the state.
4. Employers should relocate people who are at high-risk for COPD from areas with occupational dust or high air pollution. If this is not possible, employers need to adopt appropriate workplace dust-mitigation measures and/or provide government approved masks that provide adequate respiratory protection.
5. People should be advised on maintaining healthy lifestyle (including healthy diet and nutritional habits), and regular physical activity (for at least for 30 minutes a day).

Smoking cessation support and initiatives for prevention of asthma and COPD

Primary health care centres should initiate anti-tobacco activities and provide smoking cessation service. This could be achieved by scaling up of the National Tobacco Control Programme (NTCP), including the following measures:

1. Setting up and strengthening support for smoking cessation for all types of tobacco products including but not limited to cigarettes, cigars, bidi, hookah, chillum etc. in primary health centres. Nicotine replacement products will help sustain long-term smoking abstinence.
2. Education and counselling for smoking cessation should delivered by primary healthcare professionals.

Background

Asthma and COPD are two of the few leading causes of morbidity and mortality in low- and middle-income countries (LMICs). The World Health Organization identifies COPD and bronchial asthma as major public health problems in LMICs.(1) Reports suggest that tobacco smoking, outdoor and indoor air pollution, and exposure to allergens are the major risk factors for asthma and COPD.(1-3) A recent study from the State-Level Disease Burden Initiative CRD Collaborators reported an increase in prevalence of COPD and asthma in India from 1990 to 2016.(4) The total number of cases reported for COPD was 55.3 million and 37.9 million for asthma, as of 2016.(4) The WHO developed an initiative, the Global Alliance Against Chronic Respiratory Diseases (GARD) to address the emerging public health problem of increasing respiratory disease prevalence rates in developing countries.

The State Health Resource Centre (SHRC) in Raipur, identified that there is a high burden of asthma and COPD in Chhattisgarh, particularly in areas with high levels of industrial pollution. The SHRC, Raipur requested the TGI-RES team to review the existing evidence on the prevention of asthma and COPD from a LMIC perspective. This rapid evidence synthesis work aims to meet the needs of the policy decision-makers for evidence by providing a summary of recommendations from relevant guidelines from norm-setting institutions on the prevention of asthma and COPD at the primary healthcare (PHC) level in LMICs.

Methodology

A comprehensive search was conducted in two major health literature databases and in other sources including websites of six relevant organisations. The search was restricted to guidelines from relevant norm-setting institutions published in English language in the past 10 years for recency and relevancy, with a focus on LMIC context. Guidelines that reported on primary preventive strategies for asthma and COPD at the primary health care level were considered for inclusion.

Summary of evidence

The search for best practice guidelines on primary prevention of asthma yielded 1251 documents. Following study selection process, eight guidelines were included in the final report that were published between 2012 and 2019. In relation to COPD, the search yielded a total of 1588 documents, with five guidelines (published between 2012 and 2020) included in the final report. The recommendations from the guidelines were tailored to make them more policy relevant and contextualised to Indian setting, in addition to them being action oriented for the health system.

Overall, the guidelines recommend that no single strategy is effective, and that multiple strategies be implemented to prevent the onset of asthma and COPD and/or reduce their incidence. Majority of the guidelines addressed various aspects of

primary prevention with some focus from a LMIC perspective. The associated supplement document provides a more detailed and comprehensive summary of the recommendations, including technical details such as the methods used. Primary health care level interventions that aim at early identification of risk factors, smoking cessation strategies, promotion of physical activity, and healthy diet and nutrition help improve quality of life and other relevant patient outcomes. Overall, appropriate changes in lifestyle may prove to be beneficial in prevention of asthma and COPD.

References

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