

Improving quality of care in children and adolescents with asthma in primary health care: rapid policy brief

Key Policy Considerations

Asthma is a common chronic respiratory disease, with an increasing incidence reported in low- and middle-income countries. Asthma is associated with significant morbidity and health care resource use. Primary care providers are generally the first point of contact for most patients with asthma. This policy brief was developed to provide a summary of the evidence on interventions to improve quality of care in children and adolescents with asthma at the primary health care level. Key policy considerations are:

1. Children and their parents/caregivers should be provided education and support on self-management of asthma including signs of worsening symptoms and what to do in that case. Primary care providers should be provided education on self-management support for asthma patients.
2. Self-management support and education (frequency of inhaler use and proper inhaler technique) should be provided by primary health care staff to improve adherence. Multimedia training (for example, through online video training) should be considered for improving inhaler technique.
3. Medication technique and adherence should be reviewed at each follow-up visit (supported by spirometry results).
4. Peer support might improve quality of life in adolescents. This might be facilitated through the National Adolescent Health Program.
5. Telehealth interventions that are mobile app-based may be considered for consultations and monitoring; however, the additional costs of telemonitoring should be taken into consideration.
6. Prevention of acute exacerbations for asthma is the key to improving quality of care. Considerations for that are covered in a separate policy brief.(1)

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.

Why this rapid policy brief was prepared?

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

Suggested citation

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There is evidence to suggest that there is a disproportionately high burden of chronic respiratory diseases in India.⁽²⁾ The prevalence of asthma increased by 9% in India from 1990 to 2016, with a total of 37.9 million asthma cases reported in 2016.⁽²⁾ The State Health Resource Centre (SHRC) in Raipur, Chhattisgarh identified that there is a high burden of asthma in the state. The SHRC, Raipur requested the TGI-RES team to review the existing evidence on the interventions to improve quality of care (QoC) in children and adolescents with asthma in primary health care (PHC) settings, with a low- and middle-income countries (LMICs) perspective.

Methodology

A comprehensive search for studies was conducted in four health literature databases. Systematic reviews that included children and adolescents aged less than 18 years, and those relevant to primary health care setting were considered for inclusion. The study selection process was based on an established approach. The included reviews were assessed for their methodological quality using an established and standardised checklist. The rapid review which forms the basis of this policy brief is available as a technical supplement and provides more details on the methods and the findings.

Summary of evidence

Overall, eight out of 15 systematic reviews⁽³⁻¹⁰⁾ were included, and most of the studies in the reviews were conducted in high-income countries, mainly the US and UK. Majority of the studies included in the reviews were small-scale studies including small sample sizes (range between 12 to 375 participants). The included reviews were published between 2016 and 2019. An additional search for primary studies was conducted; however, no relevant primary studies were identified.

The systematic reviews assessed the included studies as of low quality, and therefore, the findings should be interpreted with caution. The interventions examined included self-management support through education and ehealth-based interventions; medication management; peer support; and telehealth. The main outcomes measured included asthma control, quality of life, self-efficacy, asthma medication adherence, and unscheduled care visits.

Self-management interventions including education as the central component may be beneficial in reducing unscheduled care visits and improve quality of life. eHealth-based self-management interventions that integrate self-management behaviour principles and education components help promote increased adherence and asthma control. Education programme including a chronic disease self-management component reduced unscheduled care visits, and to a certain extent improves quality of life, and asthma self-efficacy. eHealth-based interventions may help in improving medication (inhaled corticosteroids) adherence, if they are mobile app-based. Patients were found to be more accepting of the telephone consultations by health professionals, and interactive voice response calls. Overall, there was limited evidence on the effectiveness of various interventions, including telehealth on quality of care in terms of improving quality of life, self-efficacy, and unscheduled care visits. No studies were identified on role of pharmacists, lifestyle modifications and financial incentives in improving quality of care. There is a significant knowledge gap, more so from low- and middle-income countries' perspective. There is a need for more large-scale studies at the primary health care level and to examine outcomes in the long term, particularly from a low- and middle-income countries' perspective

Recommendations for future research

Longer follow-up studies targeted at primary health care level and studies evaluating cost benefits are recommended.

References

1. Moola S, Tyagi J. Summary of recommendations from relevant guidelines on primary prevention of asthma and chronic obstructive pulmonary disease in primary healthcare: rapid policy brief. The George Institute for Global Health, India. March 2020.
2. India State-Level Disease Burden Initiative CRD Collaborators. The burden of chronic respiratory diseases and their heterogeneity across the states of India: the Global Burden of Disease Study 1990–2016. *Lancet Glob Health*. 2018;6(12):1363-74.
3. Ahmed S, Steed L, Harris K, Taylor SJC, Pinnock H. Interventions to enhance the adoption of asthma self-management behaviour in the South Asian and African American population: a systematic review. *NPJ Prim Care Respir Med*. 2018;28(1):5.
4. Alquran A, Lambert KA, Farouque A, Holland A, Davies J, Lampugnani ER, et al. Smartphone Applications for Encouraging Asthma Self-

Management in Adolescents: A Systematic Review. *Int J Environ Res Public Health*. 2018;15(11).

5. Farzandipour M, Nabovati E, Sharif R, Arani MH, Anvari S. Patient Self-Management of Asthma Using Mobile Health Applications: A Systematic Review of the Functionalities and Effects. *Appl Clin Inform*. 2017;8(4):1068-81.
6. Jeminiwa R, Hohmann L, Qian J, Garza K, Hansen R, Fox BI. Impact of eHealth on medication adherence among patients with asthma: A systematic review and meta-analysis. *Respir Med*. 2019;149:59-68.
7. Kew KM, Carr R, Crossingham I. Lay-led and peer support interventions for adolescents with asthma. *Cochrane Database Syst Rev*. 2017;4:CD012331.
8. Kew KM, Cates CJ. Remote versus face-to-face check-ups for asthma. *Cochrane Database Syst Rev*. 2016;4:CD011715.
9. McCleary N, Andrews A, Buelo A, Captieux M, Morrow S, Wiener-Ogilvie S, et al. IMP(2)ART systematic review of education for healthcare professionals implementing supported self-management for asthma. *NPJ Prim Care Respir Med*. 2018;28(1):42.
10. Normansell R, Kew KM, Mathioudakis AG. Interventions to improve inhaler technique for people with asthma. *Cochrane Database Syst Rev*. 2017;3:CD012286.

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