Indian Academy of Pediatrics (IAP)

nRICH

Newer **R**esearch and recommendations **I**n **C**hild **H**ealth

Lead Author

Kaustubh Mohite

UNDER THE AUSPICES OF THE IAP ACTION PLAN 2023

Upendra Kinjawadekar
IAP President 2023

GV Basavaraja
IAP President 2024

Remesh Kumar R
IAP President 2022

Vineet Saxena
IAP HSG 2022-23

Dear fellow IAPans,

nRICH

Newer **R**esearch and recommendations **I**n **C**hild **H**ealth-aims to bring you the abstracts of some of the breakthrough developments in pediatrics, carefully selected from reputed journals published worldwide.

Expert commentaries will evaluate the importance and relevance of the article and discuss its application in Indian settings. nRICH will cover all the different subspecialities of pediatrics from neonatology, gastroenterology, hematology, adolescent medicine, allergy and immunology, to urology, neurology,vaccinology etc. Each issue will begin with a concise abstract and will represent the main points and ideas found in the originals. It will then be followed by the thoughtful and erudite commentary of Indian experts from various subspecialties who will give an insight on way to read and analyze these articles.

I'm sure students, practitioners and all those interested in knowing about the latest research and recommendations in child health will be immensely benefitted by this endeavor which will be published online on every Monday.

Happy reading!

Upendra Kinjawadekar
National President 2023
Indian Academy of Pediatrics

Asthma education and its impact on Pediatric asthma severity: a prospective cohort study

Kaustubh Mohite

MD Pediatrics, ERS diplomat, Fellowships in Pediatric Pulmonology Institute: Sai Child Care Hospital, Panvel, India

BASED ON ARTICLE

Heba A. Omara , MD, Mervat G. Mansour, MD & Raffay M. Badr, MB, BCh
https://doi.org/10.1080/02770903.2022.2082306

ABSTRACT

Objective: Asthma education has been shown to improve asthma control. Our goal was to evaluate the efficacy of asthma education on the frequency of utilization of health-care services, lung function results, degree of asthma severity, and quality of life (QOL) level in children with asthma.

Methods: A single-arm prospective interventional trial was conducted in a tertiary facility. Thirty children with asthma and their parents were recruited for the research. Following an assessment of the participants' and caregivers' knowledge about asthma using an asthma knowledge questionnaire, degree of asthma control using asthma control test, inhaler technique using standardized inhaler technique checklists, and QOL using Pediatric asthma QOL questionnaires, they participated in a three-month education program in the form of monthly live interactive sessions followed by weekly phone interviews. Measures taken before and after the intervention were compared.

Results: The educational intervention improved asthma control dramatically including daytime asthma symptoms, night awakenings, and frequency of use of short-acting beta2- adrenergic receptor agonists. Furthermore, the number of emergency department visits and hospitalizations fell considerably after the intervention ($p < 0.001$ for all). Asthma education was also linked to better inhalation technique and lung function ($p < 0.001$). Furthermore, all quality-of-life measures increased ($p < 0.001$ for all).

Conclusions: Implementing an asthma education program that included both children with asthma and their parents improved asthma control levels, lung function measures, and overall quality of life. Furthermore, it increased asthma awareness, decreased the use of health-care resources, and reduced asthma severity, resulting in better asthma management.

COMMENTARY

Asthma has proven to be one of the most common chronic diseases in children, having a significant impairment on the quality of life of the child and their parents. Being a chronic inflammatory condition, the progression of this disease is confounded by various complex interactions between genetic and environmental factors.

There have been several guidelines formulated towards effective treatment of this condition. However, it has been observed in our routine practise that not all patients respond to the given medications in an expected manner. This may be due to the difference in the severity of the disease but may also be because of poor compliance or improper technique in taking medications.

With technological improvements and easy access to internet in most of our outpatient clinics, it is advisable for a treating paediatrician to spend some time with the children and their parents to give a visual explanation of the disease pathology occurring in the asthmatic airway. This exercise could be done by either using your clinic computer screen or printing educational photographs and displaying in your clinic. A visual impression made in the mind of a parent's mind proves to be much more effective than hypothetically talking to them in medical jargons.

Medications used to treat asthma are in various forms (oral, inhaled with spacer, nasal sprays). The bioavailability of each of these medications depends on the technique with which they are administered and with proper compliance. One should make a point to demonstrate proper inhaler technique in the clinic itself to ensure that the same is followed at home. The practise that we follow is to educate the parents regarding the technique of medications and make them give the first dose of inhaler under observation. This gives them the confidence that the same could be done at home. A properly written and explained asthma action plan proves to be very helpful in case the child has had an exacerbation at home. Each asthma medication must be administered for a particular number of days, failure to which the chances of recurrence of symptoms is significantly high. The importance of this compliance must be explained to the parents.

Lastly, childhood asthma is a condition which requires timely follow-up. Such visits should be aimed to look for clinical improvement, improvement in lung function test and to check for inhaler technique and compliance. With the help of various questionnaires, various parameters in terms of control of symptoms and quality of life can be objectively measured after initiating proper treatment. As a practise we request the patients to get all their medications every time they visit the clinic. The first thing that they are supposed to do once they come is to demonstrate the inhaler technique. It has been found that if the patient and their parents are properly educated regarding asthma and its medications and if proper compliance and technique is followed, the chances of recurrence of symptoms are significantly reduced as observed in the above study.