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Asthma Education: A Vital Element in Asthma Management



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ABSTRACT

Asthma is one of the most common chronic inflammatory disorder which cannot be fully cured but can be controlled. Its overall burden is high and people affected are frequently hospitalized due to its exacerbations. There are several reasons for the lack of disease control in patients, one of which is non-adherence to the prescribed treatment plan by the asthma patients. Although drug therapy is used to treat, relieve and prevent symptoms, still a good asthma control in many patients is suboptimal due to low health literacy, poor assessment, lack of long-term goals and improper use of the inhalational technique. This can place considerable limitations and report impact on the physical, emotional, social, and professional domains of the lives of patients, with a substantial negative impact on quality of life. Health-related quality of life measures has been developed to reflect on the impairments experienced by asthma patients. Thus, the betterment of asthma and its management depends on the proper understanding, knowledge, attitude and lifestyle modifications. Proper use of drugs, inhaler technique and education are vital to maximize the benefits of medicaments and improve asthma outcomes.

INTRODUCTION:

Asthma is a chronic inflammatory disease of the airways^[1] in which many cells and cellular elements play a role, in particular, mast cells, eosinophils, T-lymphocytes, macrophages, neutrophils, and epithelial cells^[2] causing airflow obstruction and recurrent episodes of wheezing, breathlessness, chest tightness, and coughing.^[3] It is a chronic health condition affecting millions worldwide and developing countries are no exception.^[4] It represents a significant health and economic burden for patients, their families, and society.^[5] Patient follow-up is usually enough at the primary health care level for above 95% of patients. However, a difficult minority of asthmatics require intense specialist clinic and in-patient management for prolonged periods. Major respiratory, asthma and health-related professional bodies worldwide advocate the need to educate asthma patients as part of holistic asthma management. The three main areas of asthma education are (1) knowledge, (2) adherence, and (3) inhaler technique. A Cochrane systemic review of 20 adherence interventional studies of variable size and material found 20% improved adherence. Doctor-based education reported improved inhaler technique, QOL and ACT, improved knowledge and improved SGRQ, improved clinical outcomes. Whereas pharmacist-based education reported improved symptoms and less rescue use with verbal education, improved knowledge, improved inhaler technique, and reduced hospitalizations and ED visits. Other attempts included educational sessions delivered by nurses and other healthcare professionals documented improved knowledge parameters, adherence, and inhaler technique associated with clinical outcomes such as ED visits, hospitalizations, symptom burden, rescue use, and SGRQ, QOL, and ACT.^[6]

PATIENT'S EDUCATION:

The correct use of drugs and education of patients are vital for asthma management. Increasing patient's knowledge about their asthma therapy is a necessary component of asthma management. However, education alone has not been shown to have a beneficial effect on morbidity. The educational program must, therefore, also look at modifying a patient's behavior and attitude to asthma. The educational activities such as reading the leaflet, watching the video, and observing the posters, in addition to a standardized education-focused clinic encounter and an inhaler technique training session must be provided for an efficient understanding and knowledge.^[6] Counseling should lead to increased patient confidence in the ability to self-manage asthma, decreased hospital admission rates and

emergency visits by primary care doctors, increased compliance, and improved quality of life.^[2] Patients with hospitalizations due to asthma exacerbations are at the highest risk and need a higher level of asthma management. Hospitalization provides an important opportunity to provide asthma education and self-management skills.^[4] Research in primary health care settings indicates that educating patients on the correct use of their inhalers results in mastery of good inhaler techniques and improved asthma control. Pharmacists had an important role in providing both initial training for first-time inhaler users and subsequent regular, retraining. However, incorrect inhalation technique is still a common problem, not only for patients but also for healthcare professionals.^[4] Many studies have shown that asthma education improves outcomes, including asthma-related emergency room (ER) utilization and hospitalizations, unscheduled physician visits, days off work, and quality of life (QoL).^[5] It has been reported that successful asthma treatment depends mainly on education. Therefore, not only adherence is challenging to obtain full therapeutic effects but also correct use of inhalers. When quality interventions are offered, self-management education results in an improvement in adherence to therapy and most asthma outcomes. Unfortunately, self-management asthma education is still insufficiently provided. This can be explained by many factors, including patient-related barriers to participation in such programs, physicians' non-integration of asthma education into current practice, and/or structural and organizational problems. First, patients are sometimes reluctant to attend educational programs, even when available at no or minimal cost. This may be due to a lack of time and/or motivation, difficulty accessing this service, or simply a perception that they do not need this intervention. They might not want to participate in decision-making if they feel they lack sufficient knowledge or experience to do so. Secondly, in many instances, physicians might not have, as is often reported, the time, skills, motivation, perception of the need, or resources to provide formal asthma education, particularly in primary care settings.^[7] Asthma management guidelines recommend educating asthmatic patients about the proper use of inhalers and regularly checking their technique at each clinic visit. However, suboptimal inhaler education by physicians and other healthcare professionals due to time constraints were reported in several studies^[8]. Education for caregivers of children with asthma resulted in a significant increase in asthma knowledge, management behavior, and quality of life. The introduction of educational programs on asthma knowledge calls for instruments to measure its effectiveness.^[9]

PATIENT COUNSELLING:

Patient counseling is defined as providing medication information orally or in written form to the patient or their representative on the direction of use, advice on side effects, precaution, storage, diet, and lifestyle modifications. The adherence starts with knowledge. ^[10] Asthma knowledge is important for both patients and caregivers. Most questionnaires to evaluate this knowledge are limited, outdated, and/or only for adults. ^[9] Pharmacists are in an excellent position to provide such advice or patient counseling to patients. Through patient counseling, a practicing pharmacist at the hospital or community pharmacy can establish an effective therapeutic relationship and thereby improving the treatment adherence of the patients. ^[11] Unlike acute illness, chronic illness requires a hospital stay, self-monitoring, follow-up, lifelong drug therapy, non-pharmacological measures, and several lifestyle modifications. Therefore, patient counseling has become a growing need in chronic illness. Patients rely on inhaled medications for disease management ^[2] However, incorrect handling of inhaler devices was a common problem among asthmatic patients. Improper use of inhaler devices decreases drug delivery, patient adherence, and drug effectiveness in addition to the financial burden which all lead to drastic consequences on asthma clinical outcomes. Asthma patients differ from other patients with chronic conditions that used tablets or capsules, as they rely solely on the use of inhalers to ensure the adequate delivery of medicines. Implementation of easily adopted techniques and interventions to improve patients' education on the proper use of inhalers is of paramount importance. Pictograms are defined as standardized graphic images that help convey medication instructions, precautions, and/or warnings to patients and consumers. This approach has been shown to improve patients' cognition and ability to understand and recall drug-related information. ^[8] Incorrect performance of one or more steps can substantially reduce the delivery of the administered substance and consequently the effectiveness and safety of the medication. Numerous studies have shown that 50–80% of the investigated patients do not use their inhaler devices correctly. They often overestimate their inhalation technique or they are not even aware that they are using their inhaled medication incorrectly. ^[11] Failure to execute one or more measures properly can significantly decrease the delivery and hence the efficacy of the drug. It also contributes to the uncontrolled state of disease, unwanted side effects and may also result in greater therapy expenses. ^[12]

QUALITY OF LIFE:

QoL constitutes an important aspect of the management of patients with asthma. This requires improvement in the quality of asthma management. However, there is a knowledge gap due to limited research conducted on QoL and the level of asthma control among asthmatic patients.^[13] In susceptible individuals, inflammation causes recurrent episodes of wheezing, breathlessness, chest tightness, and coughing, particularly at night or in the early morning. Asthma is the 14th most important disorder in the world in terms of the extent and duration of the disability. According to the encyclopedia of biopharmaceutical statistics, adherence is defined as the willingness to follow the prescribed course of treatment. The act of complying with a wish, request, or demand. Medication compliance is important in managing the disease. Non-compliance can lead to a lack of drug efficacy. HRQoL is defined as the value assigned to the duration of life as modified by impairments, functional states, perceptions, and social opportunities that are influenced by disease, injury, treatment, or policy.^{[14] [15]} Health-related quality of life (HRQL) is an important patient outcome in asthma, and can be assessed by several instruments. Previous studies have shown that female sex, older age, current smoking, lower level of education, a subjective severity rating, previous exacerbations, higher body mass index, and comorbid conditions such as depression, chronic rhinosinusitis, and obstructive sleep apnea syndrome are associated with lower HRQL in asthma.^[16]

ROLE OF CLINICAL PHARMACIST IN PATIENT COUNSELLING:

Appropriate advice and counseling by the pharmacist will make the patient understand better about their medication, which has become potent and toxic with the advancement of science this will in turn increase patient compliance, which can otherwise result in the inappropriate or inadequate use of drugs. The objective of the counseling is to provide directions, instructions, advice about the drug as per prescription and imply a positive behavior in which the patient is motivated to adhere to the prescribed treatment. Meeting with patients is fundamental in educating them on correct drug use, and recommending dietary and lifestyle changes. Patient counseling is having an impact on the HRQoL of the patients.^[15]

The primary goal of asthma management is to achieve and maintain asthma control defined as 'no daytime symptoms, no limitations of daily activities, no nocturnal symptoms or awakening, no need for reliever treatment, normal or near-normal lung function results and

thus reduce the risk of life-threatening exacerbations and long-term morbidity. Asthma control can be difficult to assess in clinical practice; this might be due to its variation over time and its duplicitous. In an attempt to facilitate this assessment, several simple and easy-to-use tests have been developed such as the Asthma Control Test (ACT), the Test for respiratory and Asthma Control in Kids (TRACK), and the Childhood ACT (C-ACT). The ACT is intended to be used for patients 12 years and above, while the C-ACT should be used for patients 4-11 years of age.^[17]

CONCLUSION:

A greater understanding of the illness and a change in attitude and practice would result in a better therapeutic outcome. Asthma education programs should be conducted regarding trigger factors and lifestyle modification to improve patient awareness. Good communication between health professionals and coordination of their intervention is essential. Poor inhalation is a significant problem in asthma because the individual does not receive an adequate dose of the prescribed drug that leads to reduced therapy and control of asthma. Each sort of inhaler has distinct methods so, if it is not correctly advised to the patients, they will not follow the correct technique which leads to less possibility of illness healing. Thus, it is of utmost necessity to counsel the patients about the right inhaler technique to optimize their illness. The significant benefit of the correct inhalation technique is that medication is supplied to the lungs and that local concentration of inhaled drugs are higher and systemic side effects are considerably less likely. Using an inhaler device includes a complicated sequence of measures that need to be done properly. Adult education significantly reduced future hospital admissions and improved symptom control and quality of life. Education is one of the six essential features to achieve guided self-management, including the importance of a basic understanding of asthma pathophysiology for children and their parents, as part of effective pediatric asthma treatment. Increased knowledge of asthma is associated with improved lung function and self-efficacy, a reduction of restricted activity days, school absenteeism, visits an emergency department, and fewer nights disturbed by asthma.

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