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REVIEW ARTICLE

Glimpses of Pitfalls of Asthma Management

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Abstract:

Asthma needs continuous attention. Main problem in asthma lies in airway of the lung. Symptoms depend on degree of airway inflammation.But the tragedy is that, despite the high quality of available medications and treatment regimens that are being simplified on a regular basis, asthma is still not sufficiently controlled in many cases.World-wide, it is estimated that 300 million people are affected with bronchial asthma and of all asthma patients, 50% have symptoms on a daily basis and almost all patients report limitations to daily activities[1].So it is very important to search for any pitfall meticulously and try to solve it out. Here we will discuss some aspect of pitfall of asthma management.

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Introduction:

In managing asthma, health-care providers and the patients are often face lot of challenges and these challenges of asthma management include:

- Challenges in diagnoses
- Challenges in the treatment
- Follow-up challenges and
- Other general challenges

I. Challenges in diagnoses

1 The major clinical challenge facing asthma diagnoses is that there is no single satisfactory diagnostic test for all asthmatic patients. As a result, physicians often use different criteria in making a bronchial asthma diagnosis.

2 Simple prompt diagnoses are not achieved

3 A study also showed most hospitals lacked the services of respiratory physicians, internists, and pediatricians that are needed to provide the standard of care required for asthma management. A study found an average of 0.8 respiratory physicians per hospital in a survey of 68 tertiary hospitals in Nigeria[2]

The proper diagnosis might be another disease entity rather than bronchial asthma. In children it might be congenital heart disease, valvular heart disease, cystic fibrosis, bronchiolitis. In the adult is might be heart failure or COPD. So proper history taking, passionate physical examination relevant investigations is the key. Family history of bronchial asthma, atopy and history of smoking should be noted. Lack of standard diagnostic equipment such as peak flow meters, and spirometers are obviously evident. Skin allergy tests test/allergen specific IgE estimation, equipment for exhaled nitric oxide, histamine/ methacholine challenge tests are also lacking too.In a review of 68 tertiary hospitals in Nigeria,

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26 (38.2%) had peak expiratory flow rate meter in the emergency rooms, 20 hospitals (29.4%) had spirometer, only 10 of the 68 hospitals reviewed (14.7%) had skin allergy test facilities.[3]

Even when the equipment are available, physicians often are not conversant with their use owing to lack of proper training on their use.The overall effect of these diagnostic challenges will lead to:

*under diagnoses*over diagnoses*misdiagnosis and

*sometimes undiagnosed/unreported cases of asthma.[4]

This will ultimately lead to increased morbidity and mortality.

2. Challenges in the treatment:

Treatment challenges include:

I. high-cost

II. unavailability of essential asthma medications.

III. The unaffordability of inhaled corticosteroids as a potential barrier to treatment of asthma in developing countries.

IV. The Lack of essential devices like nebulizers, spacer devices that are used for effective medication administration constitute a strong challenge affecting correct management of asthma.

V. Poor technique of use of medication devices especially the inhalational drugs contribute to poor delivery of medications tothe required site of action resulting in poor asthma control and the increase in the health resource utilization.[5]

Steroid is the key drug for asthma.[6]It reduces inflammation of the airway to the extent that the symptoms goes away for the time being. The treatment should be long term. Unfortunately many patients do not know the difference between reliever and controller. The think salbutamol is the ultimate drug. So, we must inform our patient about the basis of airway inflammation right kind of drug. Fire is on the pipe line. We should teach our patient that it is better no to have fire in the pipeline than to put water on it. The steroid should be given as low dose or high dose. It depends on the asthma severity scale. Step case management should be followed. We can go for asthma scoring prescribe the drug accordingly. Higher doses of steroids have some side effects on its own. Even inhaled steroids have its toll. So we should be cautious about dose. Excessive dosing and its side effects are not acceptable. Inhaled drugs are always preferable. Inhaled drug goes directly to airway, less drug is needed quick response is noted. Oral drugs are associated with many unwanted side effects. Controlling asthma at the cost of Cushing syndrome or diabetes mellitus is not desirable. Oral drugs may be given in the emergency set up but inhaled medication is always desirable.Another problem of asthma management is that people get smart over time. After enduring few acute exacerbation some patients feel confident. They do not take medication properly. This erratic behavior in drug intake ultimately take its toll. To speak harshly, asthma is not a disease of cure rather this is a disease of control. So long term treatment plan, May be lifelong should be kept in mind from the first day of diagnosis.

Inhaler technique is very important but we often ignore this crucial aspect. In a study conducted in BSMMU, 70% study Population cannot use inhaler properly. So drugs do not reach the final destination, the airway. Rather, it is deposited on the oropharynx. So inhaler technique is the key.[7]We should be cautious whether to prescribe metered dose inhaler or dry powder inhaler. If a person cannot take the MDI properly, then spacer or respochamber should be employed.[8]We must demonstrate the patient how to use the inhaler. In a busy practitioner's life, this is not always that much easy. But we must make it a habit to demonstrate and check the inhaler technique. An attractive alternative to metered-dose aerosols, either with or without spacers, are dry-powder inhalers (DPIs) which eliminate the problem of coordination for patients as they are breath activated.[9] Dry-powder systems use the force of a patient's inspiration to break up the released active-ingredient conglomerate into respirable particles. The amount of force required to do this varies from device to device.[10]

Another challenge of asthma treatment is that the very newer asthma medications are of limited benefit,[11]For a small percentage of patients and

often more expensive, e.g., leukotrienes antagonist, omalizumab (monoclonal IgE antibody), thermoplasty etc., thereby making it impossible for patients with poor resources to benefit from them.

Thus, treatment challenges highlighted could lead to

- under-treatment
- unnecessary treatments
- poor control.
- Increased adverse drug reactions,
- increased morbidity and mortality and
- Poor quality of life.

In a survey of asthma patients in Ife, 40% of respondents reported the presence of depressive symptoms, 48.1% of them reported low scores on the Mini-Asthma Quality of Life questionnaire.[12]

Trigger: Asthma need education, medication and caution. We should inform our patient about various trigger factors, weather, even role of psychological factors. Patient should always be cautious. Avoiding the practical approach. Wearing mask, influenced vaccination yearly, regular physical exercise may help.

Triggers may be in the patient's own household, From Cockroach to feather or the ordinary food. Patient must keep a personal asthma diary to role which trigger factor hurt him much. Triggers must be identified and checked before it becomes perilous.

3. Follow-up challenges:

The main aspects of follow up challenges are:

- Communication gap between the health-care providers and the patients
- Lack of patients self-monitoring equipment
- lack of educational materials
- Lack of adequate public health nurses
- Lack of proper GP referral

A survey of level of asthma control among bronchial asthma patients attending follow-up in two tertiary hospitals in north-central and southwestern Nigeria showed that: 69.3% of them had uncontrolled asthma, 22.6% had partly controlled asthma, and only 8.1% had controlled asthma.[13]Asthma patient should not be lost. A good rapport with the patient is a must. Patient should visit the doctor at least in every three months. Doctor will review the treatment plan, peak flow, level of control, inhaler technique and suggest necessary adjustment. Proper management of asthma is like coordinated human endeavor. Sooner the understanding, empathy mutual trust, better the outcome.

4. Other general challenges:

- Lack of will by the government/hospital administrative staff in the provision of basic infrastructure such as asthma clinics, asthma clinic registers, appointment and recall systems in the clinics[14]
- Lack of adequate asthma care training courses for doctors and nurses.
- There is poor medication purchase regulations as people are able to buy medications to wrongly treat asthma or even to trigger attacks. Purchase of over the counter medications such as NSAIDs and beta blockers are known to trigger attacks of asthma.[15]

5. How to overcome the challenges?

Several challenges affect asthma management in a developing countries which borders on poverty, inadequate resources, weak health systems, and poor infrastructure. Efforts should be made to address these challenges by the government through the provision asthma diagnostic facilities at all levels of care, training of health-care workers, coverage of asthma care in the National Health Insurance Scheme in order to ensure affordability of asthma care.[16]In addition, pharmaceutical companies could help address these challenges by partnering with government to reduce/subsidize the price of asthma medications as this will in the long run ensure good asthma control as asthma patients will not lose control due to inability to purchase asthma drugs.[17] Furthermore, there is a need to commence training and re-training of health care providers through sustained continuing professional development CPD/CME activities on current management of asthma.[18]

Asthma management is a long journey. Like Hypertension or diabetes mellitus asthma needs longer version of treatment. There are so many pit fills of asthma management but we should be vigilant and try our best to control this time old disease. Control is our goal rather than to cure it.

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