A TRANSCRIPT OF THE FOURTH WEBINAR HOSTED BY THE ASTHMA AWARENESS AND CARE GROUP (AACG) ON SATURDAY, 11TH MAY 2024

PREPARED BY: PHARM. NNEAMAKA JENNIFER AKANKALI & DR. KOSISOCHI CHINWENDU AMORHA

INTRODUCTION

Hello!

You are welcome to the 2024 Asthma Awareness and Care Group (AACG) Webinar 4.0. We are a group of enthusiasts working to improve asthma awareness and care in communities.

Asthma is one of the top four non-communicable diseases. With prompt treatment and proper management, many asthma-related deaths are preventable.

AACG comprises patients with asthma, caregivers, health professionals and volunteers working to improve asthma awareness and care in Nigeria and beyond.

To know more about us, our activities, and to download our previous webinars, please visit our website https://www.asthmacaregroup.org.ng

If you are not a registered member and have interest in becoming one, ensure you register. It is free and should take less than three minutes to do so.

Let us meet our *Moderator*, *Convener* and *Facilitators*.

PHARM. NNEAMAKA JENNIFER AKANKALI
(THE MODERATOR)

Nneamaka is a pharmacist who is passionate about public health with an interest in research. She employs partnership as a tool for strategic project success in the pharmaceutical and healthcare space.

Graduating with a Bachelor of Pharmacy (B.Pharm) degree from the University of Nigeria, Nsukka (UNN) is a laudable achievement. However, Nneamaka counts the impact she has made in the lives of people, an even greater achievement.

Asides her various certifications in Leadership and Management in Health, and Clinical Management of HIV/AIDS from the University of Washington, and Procurement and Supply Chain Management of Pharmaceuticals from United Nations Development Programme. Nneamaka also has a Masters degree in Vaccinology and Drug development from the Institute for Global Health, University of Siena, Italy.

Her desire to make the world a better place through knowledge sharing is the reason she lends her voice in advocacy for improved awareness and care of asthma under the aegis of the Asthma Awareness and Care Group (AACG).

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Nneamaka is also passionate about global health solutions to improve accessibility to quality and affordable medicines and healthcare for the underserved. She believes that professional and volunteering opportunities should be seized to learn, improve, and add value to the world around her.

DR. KOSISOCHI CHINWENDU AMORHA
(THE CONVENER)

Kosi is a Pharmacist with bias for clinical pharmacy practice, academics and research (https://orcid.org/0000-0003-0131-440X). He is the Founder of the Asthma Awareness and Care Group (www.asthmacaregroup.org.ng), a group of enthusiasts that proactively promote asthma awareness and care in communities.

He is a Senior Lecturer at the Department of Clinical Pharmacy and Pharmacy Management, Faculty of Pharmaceutical Sciences, University of Nigeria, Nsukka (UNN) where he obtained his Ph.D with Distinction. He has published in several peer-reviewed, impact factor journals and serves as a reviewer for reputable journals. He is an Academic Editor for PLOS One and Frontiers in Allergy.

Kosi is a Fellow of the West African Postgraduate College of Pharmacists, WAPCP (FPCPharm). He completed his Masters in Clinical Pharmacy (M.Pharm) with Distinction at the University of Lagos after obtaining his Bachelor of Pharmacy (B.Pharm) degree from UNN. He also has a Doctor of Pharmacy (Pharm.D) degree from the University of Benin. He is a graduate of the Nigerian Institute of Management (GNIM) with a Proficiency Certificate in Management, NIM (Chartered).

Kosi is a Certified Supply Chain Analyst (CSCA) by the International Supply Chain Education Alliance (ISCEA).

His work experiences in the hospital, industry, community, and marketing (medical representative) have proven him a versatile young man with an appreciable level of tolerance, managerial, and people skills.

In 2018, his Ph.D thesis, "Pharmacist-led interventions in asthma self-management programmes and the effect on health outcomes in Nigeria" was nominated for the prestigious UNN Vice-Chancellor's award. He proactively educates patients with asthma, their caregivers, and the public, on asthma, asthma medications and devices.

Kosi mentors many undergraduate and postgraduate students. He is one of the Guardians for the Professional Society for Health Economics and Outcomes Research (ISPOR), UNN Chapter, and is a Patron of other notable groups.

He recently completed a one-year Sabbatical Leave at Bingham University, Nasarawa State, Nigeria, where he served as Head, Department of Clinical Pharmacy and Pharmacy Practice (January 2023 – January 2024).

He served as Secretary, Pharmaceutical Society of Nigeria (PSN), Enugu State (17 October 2020 – 19 October 2024). He is currently the Postgraduate Coordinator, Department of Clinical Pharmacy and Pharmacy Management, UNN.

Kosi is open to volunteerism and teaches others to do same. He strongly believes that there is no success without successors.

DR. OLUWATOYIN OJO
(FACILITATOR 1)

Oluwatoyin is a Fellow of the West African Postgraduate College of Pharmacists (FPCPharm) with specialty in Public Health. She holds a Doctor of Pharmacy degree (Pharm.D) and Masters in Business Administration (MBA) with over 37 years professional work experience.

She works as a Director at the Lagos State University Teaching Hospital, Ikeja (LASUTH), where she superintends the Drug Information Centre, Clinical, Research and Development activities.

She also leads the Respiratory Pharmacy team supporting Respiratory Clinic and Wards and the Directly Observed Therapy Short Course Tuberculosis Clinic (DOTS TB Clinic). She is the Desk Officer, Respiratory Pharmacists of Nigeria CPAN specialty group.

Oluwatoyin is an advocate of best pharmacy practice and a mentor to younger pharmacists on collaborating with other members of the healthcare team in order to achieve better therapeutic outcomes for patients.

She has strong pioneering, organisational, analytical, and problem-solving skills amongst other abilities. She is an astute believer in doing things well and for the right reasons.

Her wealth of experience spans both private and public sectors of Nigeria's health system.

DR. PAUL NLEWEDIM
(FACILITATOR 2)

A graduate from the Prestigious College of Medicine UNILAG, Paul completed his Fellowship in Internal Medicine, subspecialty in Pulmonology.

He is a Member of the Nigerian Thoracic Society, African Federation of Emergency Medicine (AFEM), Fellow of the West African College of Physicians (FWACP) and is Certified in Basic and Advanced Cardiac Life support with American Heart Association (AHA).

Dr Paul Has over 10 years' experience in Asthma Care and over 4 years' experience in Emergency and Critical care. He also heads the postgraduate training program for residents in Emergency Medicine Department in University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu State, Nigeria (UNTH).

Currently, he is the Head of Medical Unit, Emergency Medicine Department and Consultant Pulmonologist at UNTH.

Now that we have met our Moderator, Convener, and Facilitators, let us proceed to Webinar 4.0

WEBINAR 4.0: ASTHMA EDUCATION EMPOWERS

Pharm. Akankali: Dear AACG, please make welcome our own, the founder of AACG, Dr. *Kosisochi Amorha* for his opening remarks.

(*Applause*)

Dr. Amorha: Well done, *Pharm. Akankali* and good evening, everyone (goes ahead to give opening remarks)

Pharm. Akankali: Thank you**,** *Dr. Amorha.* Up next, we will be watching an educational video from the archives of AACG. *Dr. Amorha,* please help us share the video.

Dr. Amorha: *Plays two AACG videos on accuhaler technique in Nigerian Pidgin English and House Dust Mites.*

Pharm. Akankali: Thank you**,** *Dr. Amorha*. Now, we will be introducing our first speaker, *Dr. Paul Nlewedim.* (Reads out Citation). You have the floor, Sir.

Dr. Nlewedim: Thank you *Pharm. Akankali***,** *Dr. Amorha,* and the AACG team, for the opportunity to be here.

Dr. Nlewedim: Asthma is one of the most common chronic non-communicable diseases that affects over 260 million people, and is responsible for over 450,000 deaths each year worldwide, most of which are preventable and needless to say the least.

Dr. Nlewedim: By 2025, we expect to have over 400,000 million people with asthma. In Nigeria, there are about 15 million people with asthma.

Dr. Nlewedim: Asthma is characterised by variable respiratory symptoms such as wheeze, shortness of breath, chest tightness, and cough, and variable expiratory airflow limitation. It is usually associated with airway inflammation.

Dr. Nlewedim: Asthma is usually associated with airway hyper-responsiveness and inflammation, though these are not necessary to make a diagnosis.

Dr. Nlewedim: Airway inflammation usually persists even when there are no symptoms or where lung functions are normal, but may normalize with therapy.

Dr. Nlewedim: Aetiology of Asthma (Heterogenous): An interplay between host factors (genetics in particular) and environmental factors.

Host factors
Innate immunity
Genetics

Environmental factors
Airborne allergens – dust mites, cockroaches, viral infections,

Tobacco, smoke, diet, air pollution, pollen, moulds, animal dander

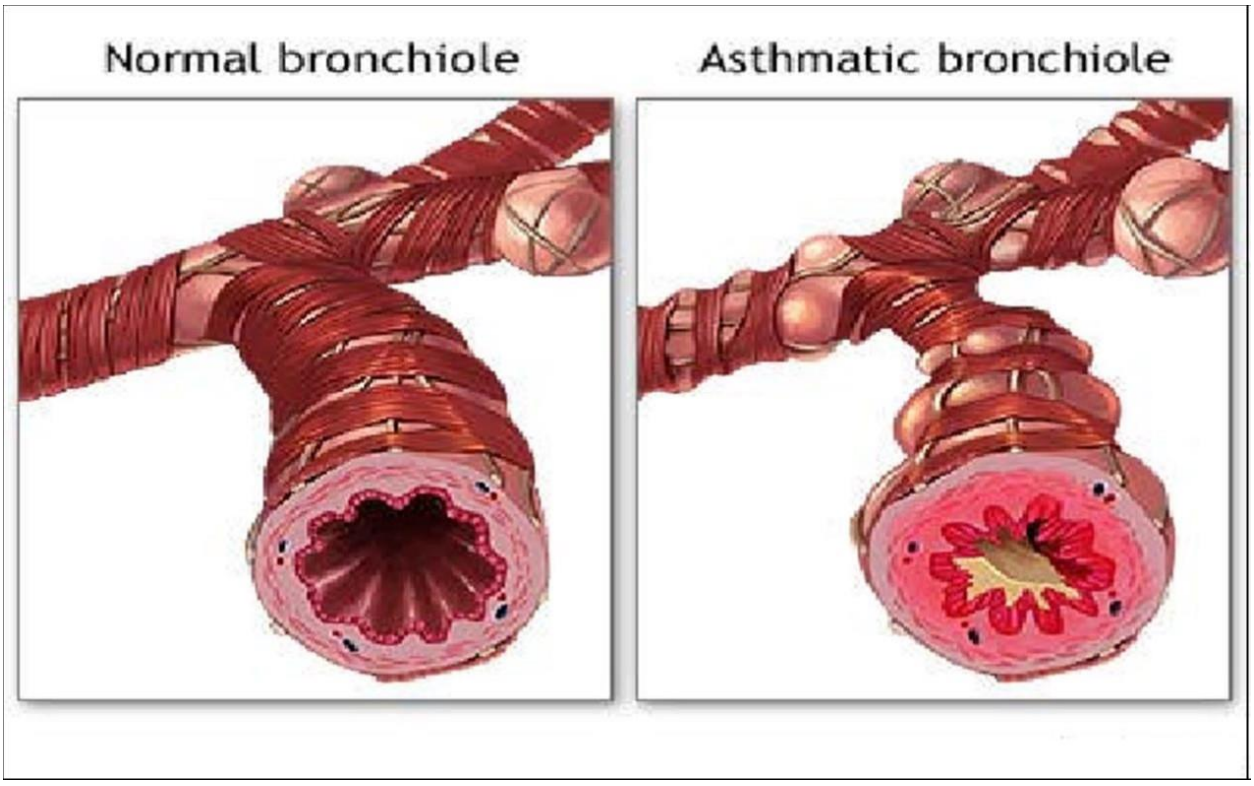

Figure 1: A picture showing the difference between normal and asthmatic bronchioles

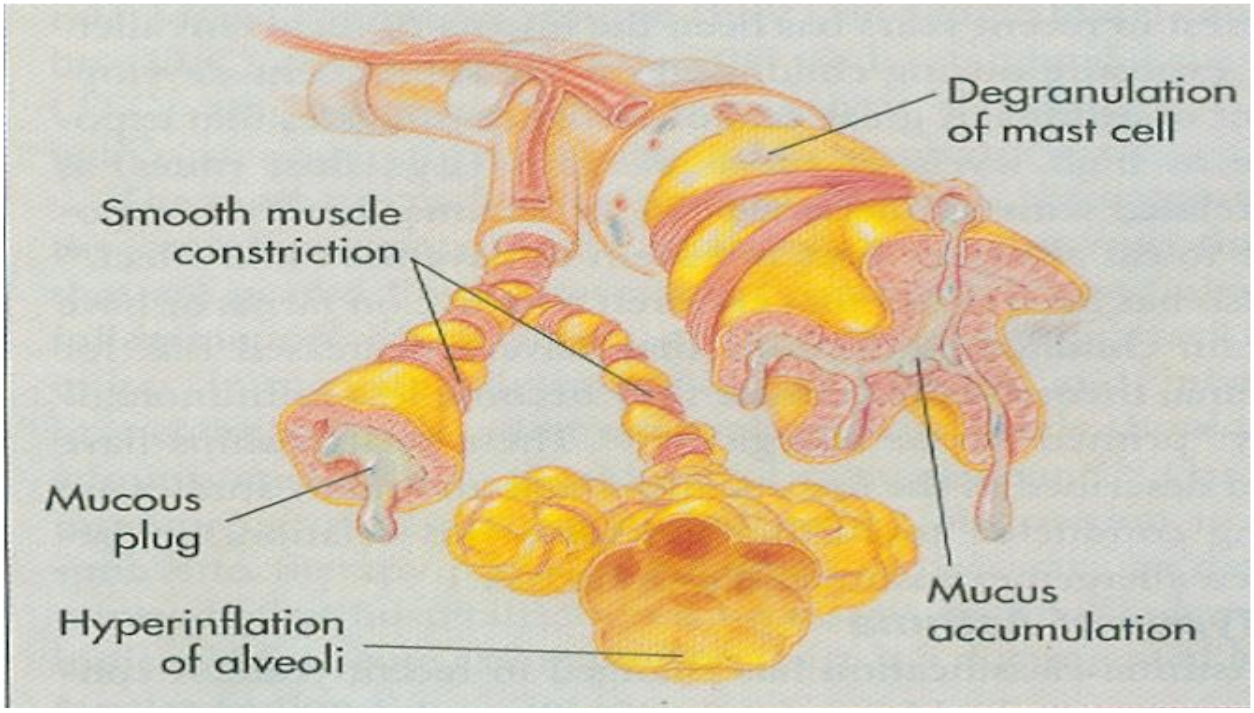

Figure 2: Asthmatic bronchiole in action

Dr. Nlewedim: Diagnosis of Asthma

Establish diagnosis

- Symptoms of recurrent episodes of airway obstruction and hyper responsiveness
- Obstruction partially reversible.
- Exclude alternative diagnosis

Symptoms

- Cough, recurrent wheeze, chest tightness
- Symptoms worsen in presence of
    - Exercise, viral, inhaled allergens, irritants
    - Changes in weather, stress, strong emotions
    - Worse at night and early morning

Physical examination

- Upper Respiratory Tract – rhinitis, nasal polyps
- Chest exam –wheeze, prolonged expiration
- Skin- atopic eczema

Airflow obstruction at least partially reversible

- Measured by spirometry

Reversibility determined by an increase in FEV1 of > 12% or 200mls from baseline after inhalation of SABA

Exclude differential diagnosis

- Vocal Cord Dysfunction (VCD), Left Ventricular failure (LVF), Pulmonary embolism (PE), Chronic Obstructive Pulmonary Disease (COPD), tumours, Angiotensin Converting Enzyme (ACE) Inhibitor cough

Other investigations

- Serum IgE
- Allergen skin prick tests
- Blood eosinophil count
- Chest X-ray
- Bronchoprovocation
- Histamine methacholine
- Cold air exercise

Dr. Nlewedim: Challenges with SABA as needed therapy

- Exacerbation triggers are unpredictable (viruses, pollens, pollution, poor adherence)
- Inhaled SABA has been first-line treatment for asthma for 50 years
- Dating from an era when asthma was thought to be a disease of bronchoconstriction Its role has been reinforced by rapid relief of symptoms and low cost
- Starting treatment with SABA trains the patient to regard it as their primary asthma treatment

Dr. Nlewedim: Risk of SABA only therapy

Higher use of SABA is associated with adverse clinical outcomes

- Dispensing of ≥3 canisters per year (i.e. daily use) is associated with higher risk of severe exacerbations *(Stanford, AAAI 2012; Nwaru, ERJ 2021)*
- Dispensing of ≥12 canisters per year is associated with much higher risk of death *(Suissa, AJRCCM 1994; Nwaru, ERJ 2021)*

Regular use of SABA, even for 1–2 weeks, is associated with adverse effects

- β-receptor down regulation, decreased Broncho protection, rebound hyper responsiveness,
- Decreased bronchodilator response *(Hancox, Respir Med 2000);* increased allergic response, and

- Increased eosinophilic airway inflammation *(Aldridge, AJRCCM 2000)*

Dr. Nlewedim: Journey to ICS-Formoterol as needed Therapy

- Inhaled corticosteroids reduce the risk of asthma deaths, hospitalization and exacerbations requiring oral corticosteroids (OCS) *(Suissa, NEJM 2000 & 2002; Pauwels, Lancet 2003)*
- Adherence is poor, particularly in patients with mild or infrequent symptoms
- A safe and effective alternative was needed for mild asthma

Dr. Nlewedim: Goals of Asthma Treatment

- Symptom control: Few asthma symptoms, No sleep disturbance, No exercise limitation.
- Risk reduction: Maintain normal lung function, prevent exacerbations, prevent asthma deaths, minimize medication side effects (including oral corticosteroids).
- The patient's goals may be different
- Symptom control and risk may be discordant
    - Patients with few symptoms can still have severe exacerbations

Dr. Nlewedim: According to GINA guidelines, a three-phased approach should be employed to ensure the patient with asthma is getting optimal care:

1). Review: Symptoms, exacerbations, side-effects, lung function, co-morbidities, patient/caregiver satisfaction.

2). Assess: Confirmation of diagnosis, symptom control, co-morbidities, inhaler technique and adherence, patient/caregiver preferences and goals.

3). Adjust: Treatment of modifiable risk factors and co-morbidities, Non-pharmacological strategies, Asthma medications, Education and skills training

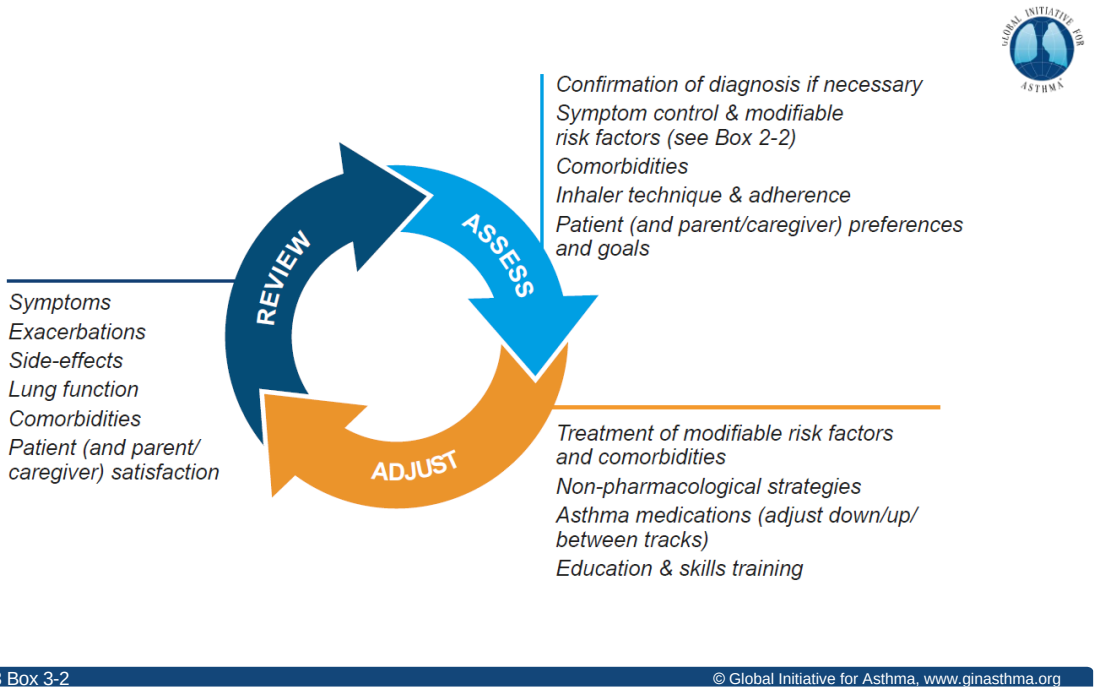

Figure 3: Three-phased approach to ensuring optimal care for Asthma patients

Dr. Nlewedim: Medication regimen for asthma management:

1). Preferred controller and reliever: Using ICS formoterol as the reliever reduces the risks of exacerbations compared with using a SABA reliever.

2). Alternative controller and reliever: Before considering a regimen with SABA reliever, check if the patient is likely to adhere to daily controller treatment.

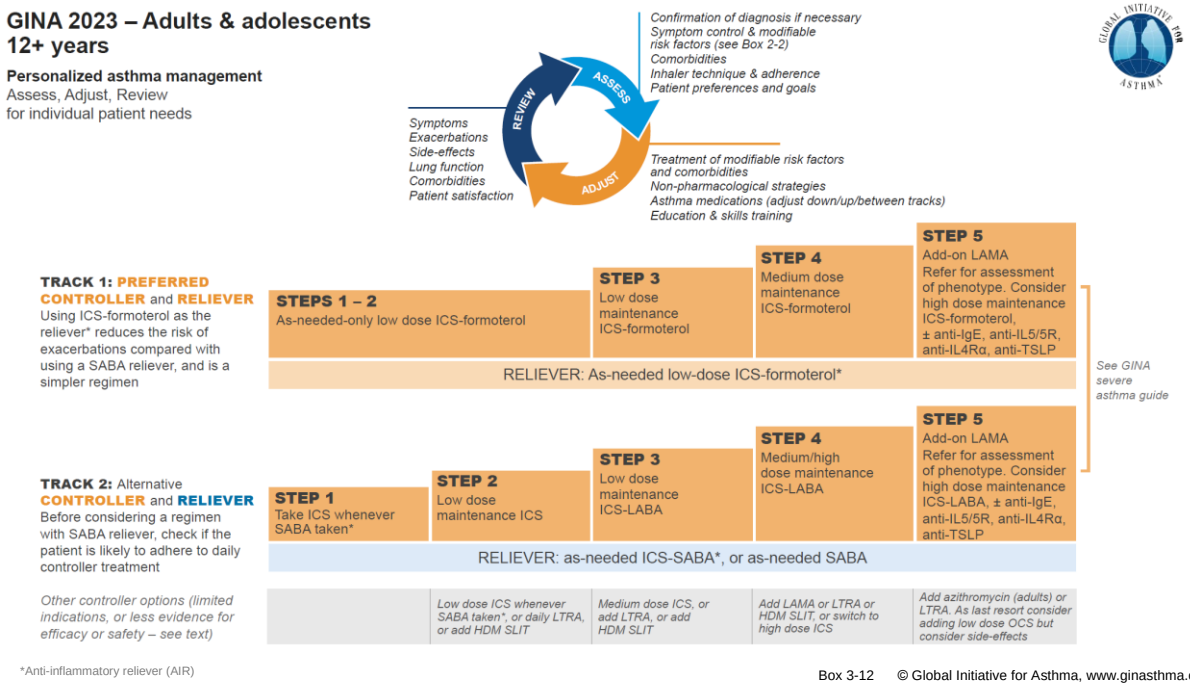

Figure 4: Personalised asthma management plan for adults and adolescents – GINA 2023

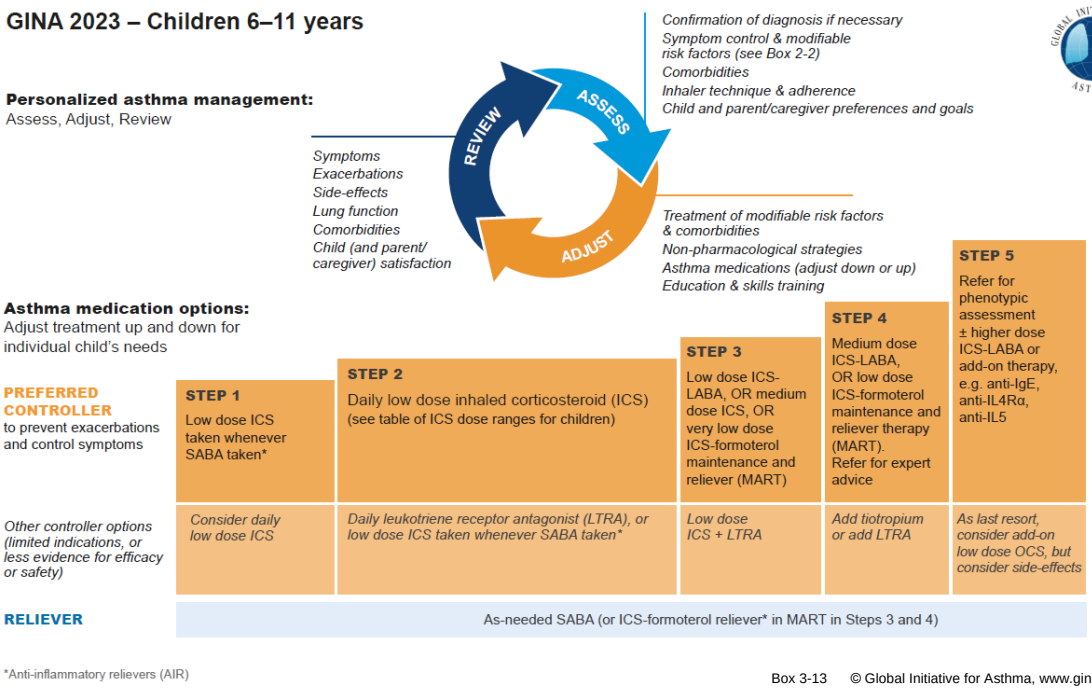

Figure 5: Personalised asthma management plan for children 6-11 years – GINA 2023

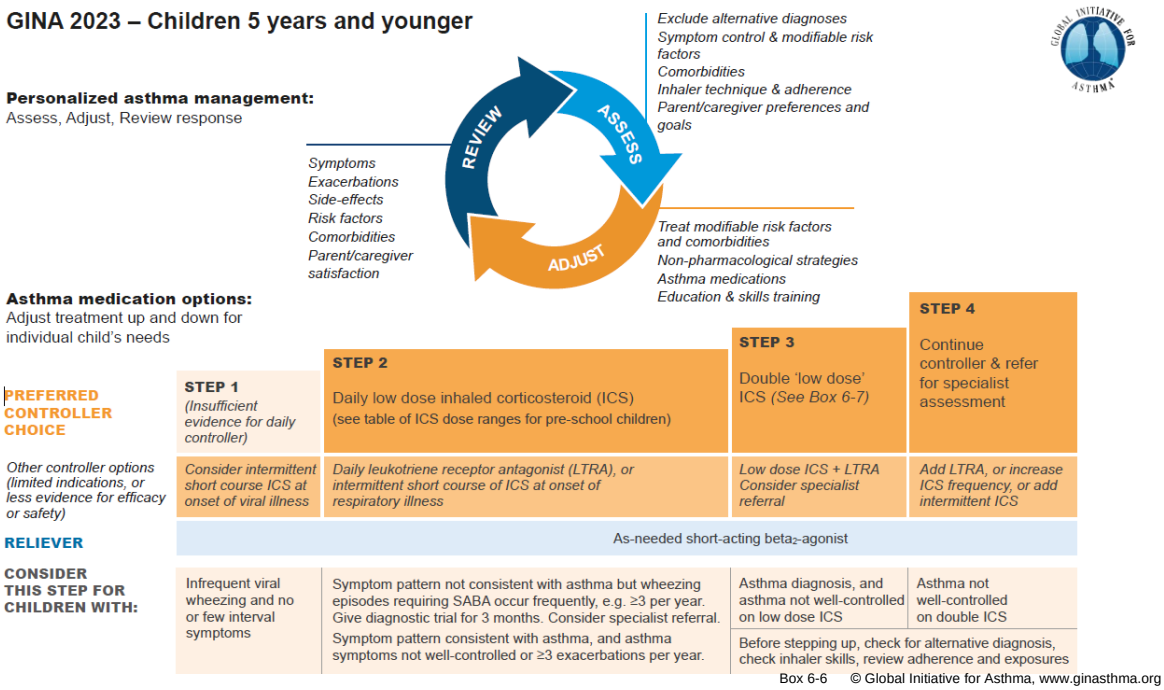

Figure 6: Personalised asthma management plan for children 5 years and younger – GINA 2023

Supplement to Reddel et al, JACI in Practice 2022; 10: S31-s38

This template can be modified for other ICS-formoterol combinations or for as-needed-only ICS-formoterol.
The action plan on which it is based has been widely used in Australia and other countries since 2007.

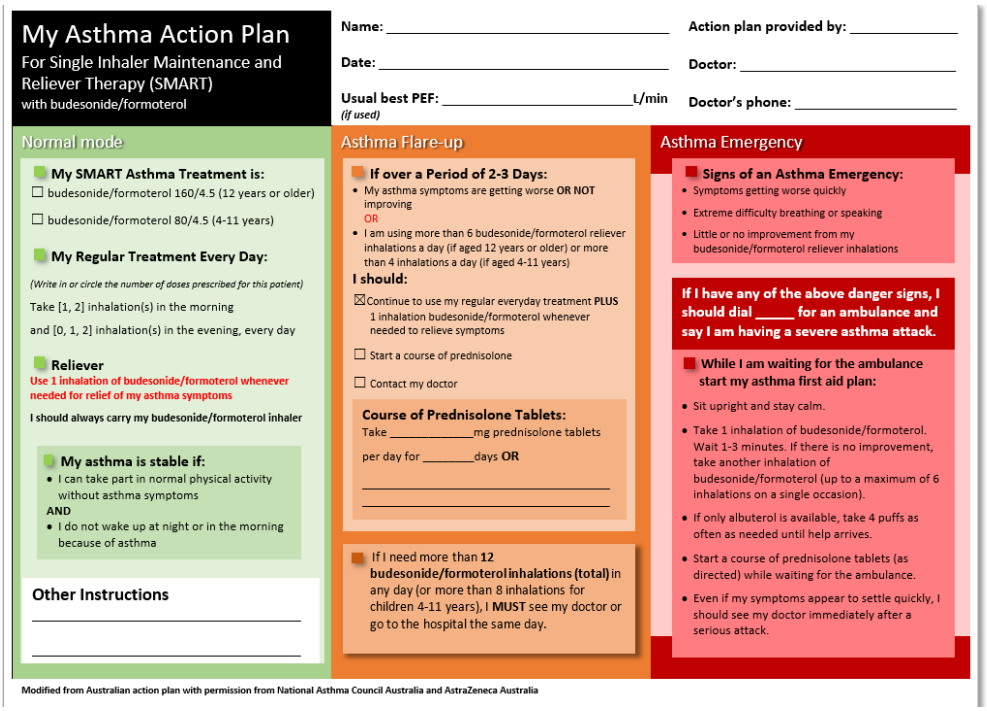

Figure 7: Asthma Action Plan

Reddel HK, Bateman ED, Schatz M, et al., *A practical guide to implementing SMART in asthma management. J Allergy Clin Immunol Pract, 2022. 10: S31-s38.*

Dr. Nlewedim: Now, let's talk about inhaler choice and environmental considerations

Dr. Nlewedim: Inhaled corticosteroids markedly reduce the risk of asthma exacerbations and death but there is limited availability and access in low- and middle-income countries.

Dr. Nlewedim: Many inhaler types are available, with different techniques. Some inhalers are not suitable for some patients. For example, dry powder inhalers (DPIs) are not suitable for children ≤ 5 years and some elderly patients. Pressurised Metered Dose Inhalers (PMDIs) are difficult to use for patients with arthritis or weak muscles, Capsule devices are difficult to use for patients with tremor.

Dr. Nlewedim: Most patients do not use their inhalers correctly. More than one inhaler leads to more errors. Incorrect technique leads to more symptoms which results in worse adherence, which leads to more exacerbations, and a higher environmental impact.

Dr. Nlewedim: Propellants in current pMDIs have 25x global warming potential compared with dry powder inhalers. New propellants are being developed but not yet approved.

Dr. Nlewedim: Choice of inhaler is important!

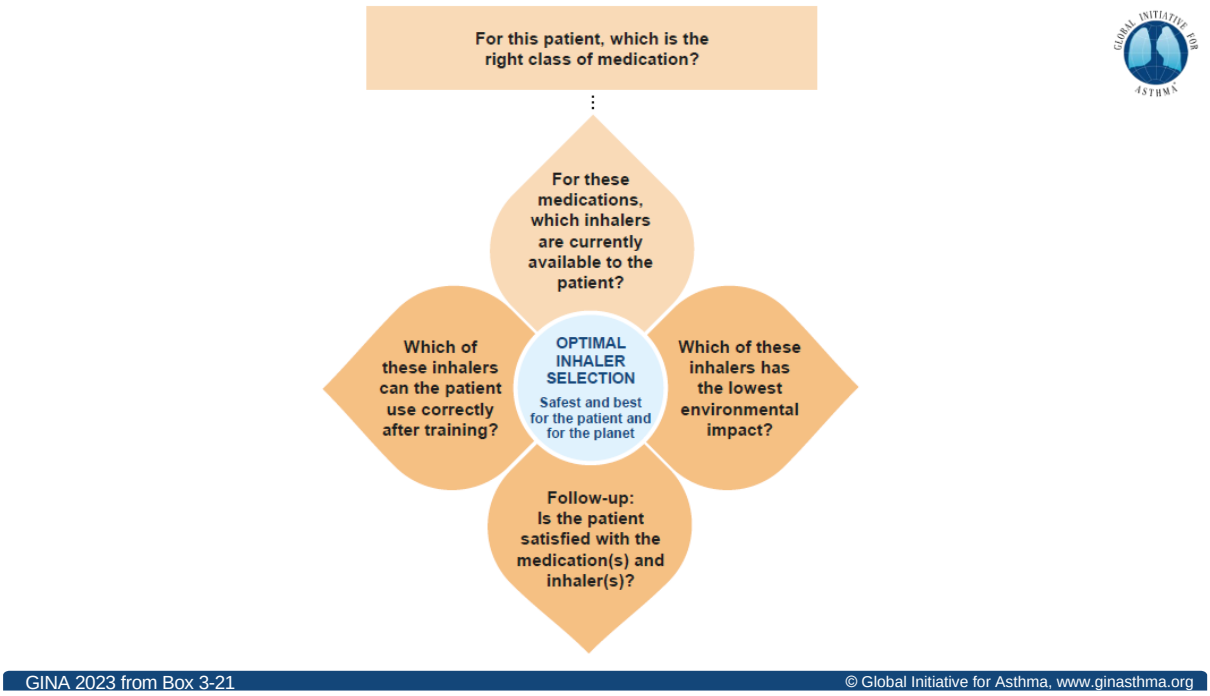

Figure 8: A diagram showing factors for optimal Inhaler selection

Dr. Nlewedim: Key universal issues with asthma care include:

- Under-or inaccurate diagnosis
- Underuse of anti-inflammatory inhaled corticosteroid inhalers,
- Overuse, and over-reliance on short-acting beta2–agonist (SABA) inhalers,
- Poor recognition of patients requiring specialist assessment and further management.

Dr. Nlewedim: Other Key Issues

• In low-middle-income countries, lack of availability of inhaled medicines and especially **inhaled corticosteroid-containing inhalers** is a major contributor to the fact that more than 90% of asthma deaths occur in these countries.

• High Cost of Medications in recent times

Dr. Nlewedim: In Conclusion, GINA emphasizes the need to empower people with asthma with the appropriate education to manage their disease, and to recognize when to seek medical help.

• Health care professionals are called upon to increase their awareness of the continuing avoidable morbidity and mortality from asthma, and the published evidence on effective management of asthma, so they are equipped to provide reliable information and optimal treatment for their patients.

Dr. Nlewedim: Thank you very much for listening.

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Effect of budesonide/formoterol maintenance and reliever therapy on asthma exacerbations

- P. Kuna,1 M. J. Peters,2 A. I. Manjra,3 C. Jorup,4 I. P. Naya,4 N. E. Martı´nez-Jimenez,5 R. Buhl6

Controlled Trial of Budesonide–Formoterol as Needed for Mild Asthma

- Richard Beasley, D.Sc., Mark Holliday, B.Sc., Helen K. Reddel, Ph.D., Irene Braithwaite, Ph.D., Stefan Ebmeier, B.M., B.Ch., Robert J. Hancox, M.D., Tim Harrison, M.D., Claire Houghton, B.M., B.S., Karen Oldfield, M.B., Ch.B., Alberto Papi, M.D., Ian D. Pavord, F.Med.Sci., Mathew Williams, Dip.Ex.Sci., and Mark Weatherall, F.R.A.C.P., for the Novel START Study Team*

The SYGMA programme of phase 3 trials to evaluate the efficacy and safety of budesonide/formoterol given 'as needed' in mild asthma: study protocols for two randomised controlled trials

- Paul M. O'Byrne1,9*, J. Mark FitzGerald2, Nanshan Zhong3, Eric Bateman4, Peter J. Barnes5, Christina Keen6, Gun Almqvist6, Kristine Pemberton7, Carin Jorup6, Stefan Ivanov6 and Helen K. Reddel8

TERMINOLOGY

- **Reliever:** For symptom relief, or before exercise or allergen exposure
- **Controller:**

  Function
  - Targets both domains of asthma control (symptom control and future risk)
  - Mostly used for ICS-containing treatment

- **Maintenance treatment**

  Frequency: regularly scheduled, e.g. twice daily

- **Anti-Inflammatory Reliever = AIR**
  e.g. ICS-formoterol, ICS-SABA
  Provides rapid symptom relief
  Plus a small dose of ICS reduces the risk of exacerbations, compared with using a SABA reliever

Regimens with ICS-formoterol anti-inflammatory reliever

- **As-needed-only ICS-formoterol = AIR-only**

The patient takes low-dose ICS-formoterol whenever needed for symptom relief

- **Maintenance And Reliever Therapy with ICS-formoterol = MART**

A low dose of ICS-formoterol is used as the patient's maintenance treatment, plus whenever needed for symptom relief.

- ICS-formoterol can also be used before exercise or allergen exposure

ICS: inhaled corticosteroid:

SABA: short-acting beta2-agonist;

MART is sometimes also called SMART

Dr. Oluwatoyin Ojo did a recap. In her summary, she mentioned that the Lagos Health Insurance Scheme (LHIS) is considering the inclusion of inhaled medicines for asthma as what registered patients with asthma can benefit.