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NATIONAL HEALTH MISSION

CIRCULAR

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Sub:- Guidelines for Swaas program during Covid -19 pandemic

Ref :- Note received from SNO NCD

Operational guidelines for SWAAS program during COVID-19 pandemic

Background

The world is facing a grave crisis due to the COVID 19 pandemic. Globally, as of 2:34pm CEST, 7 July 2020, there have been 11,500,302 confirmed cases of COVID-19, including 535,759 deaths, reported to WHO.India has reported 742417 cases as on 8th July, 2020 of which 5894 cases were reported from Kerala. Among these cases there were 20642 deaths in India and 27 from Kerala.([ii])

In the midst of the COVID 19 pandemic, people continue to suffer from and die from non-communicable diseases, including COPD and Asthma. As per the Global burden of diseases data, COPD is the 3rdleading cause of death worldwide, 2nd leading cause of death in India and 3rd leading cause of death in Kerala. Asthma is the 24th leading cause of death worldwide, 8th leading cause of death in India and 19th leading cause of death in Kerala. Every year, as per GBD estimates about 25,000 persons die due to COPD and about 2800 die due to Asthma in Kerala.([iii],[iv])

Kerala was the first state in India to develop a program for management of COPD and Asthma at multiple levels of health care including Primary care level, a comprehensive public health program, called the SWAAS program. This program has been implemented in more than 179 family health centres (FHCs) and 39 district / general hospitals. A preliminary evaluation of the SWAAS program in Trivandrum district showed a marked improvement in the quality of diagnosis and treatment of patients with COPD and Asthma.

Interaction between COPD, Asthma and Covid-19

- Overlap in symptoms can occur between these diseases. Cough and breathlessness are symptoms common to all three diseases. Exacerbation of COPD and Asthma, which usually bring patients to health care institutions, are most commonly triggered by infection, and once fever occurs, it becomes very difficult to distinguish such patients from a COVID 19 suspect.
- There were initial concerns that persons having co-morbidities like COPD and Asthma may be more susceptible to more severe forms of COVID 19 and mortality, but later studies have shown that other co-morbidities, like cardiac disease, may be greater risks for mortality in COVID 19 patients.
- Diagnosis of COPD and Asthma exacerbations are primarily by spirometry. Spirometry is a procedure which causes aerosol generation. In the era of COVID 19, when our country has only

limited capacity for SARS-Cov2 testing, there is apprehension that performing spirometry could lead to COVID 19 spread.

- COPD and Asthma exacerbations are primarily managed by nebulisation. Nebulisation is a procedure which causes aerosol generation. In the era of COVID 19, as mentioned earlier, with overlap of symptoms, , there is apprehension that performing nebulisation could lead to COVID 19 spread.
- Asthma treatment has to include inhaled corticosteroids for stable management and this is often needed in certain sub-groups of COPD patients as well. Exacerbations of Asthma and COPD need systemic corticosteroids for management. Concern has been raised about use of steroids during the COVID 19 pandemic. However, clarifications have come from global organisations which lead the guideline development for Asthma and COPD, GINA and GOLD respectively, that not using steroids when indicated would result in more mortality in Asthma and COPD as compared to the risk of using these agents.[v][vi]
- Other areas of concern include conduct of pulmonary rehabilitation and smoking cessation clinics; and training and checking inhaler technique.

During the period of the COVID 19 pandemic, changes are proposed in the existing SWAAS guidelines so as to ensure that there is no risk of COVID 19to both patients as well as health care workers, while at the same time ensuring that patients with COPD and Asthma get the best possible care and do not have to face greater morbidity or mortality.

Diagnosis of COPD and Asthma as per SWAAS

The SWAAS program aims at standardised care of COPD and Asthma, so as to ensure that the scarce resources are available to the patients who actually need them.

As can be seen, COPD diagnosis can be made only after doing a mini-spirometry and demonstrating that there is airflow limitation in terms of FEV1/FVC or FEV1/FEV6 less than 70%.

Spirometry is also indicated in patients who are suspected to have Asthma. Patients may have a reduced FEV1/FVC (or FEV1/FEV6), particularly when symptomatic. The other findings that might aid in the diagnosis on spirometry include post bronchodilator reversibility (increase in FEV1 >12% AND >200ml) or a significant increase in FEV1 after 4 weeks of controller treatment.

The expert committee felt that since it is very difficult to ensure airborne infection control during spirometry, particularly at FHC level, spirometry should be avoided as part of SWAAS program until there is significant reduction of the COVID 19 pandemic.

Since spirometry would not be possible, a syndromic diagnosis of COPD and Asthma would be made for new cases at FHC level. Already diagnosed cases, and cases diagnosed from higher centres including Medical Colleges and hospitals where diagnosis was made by specialists need not be subjected to the Syndromic diagnosis and the diagnosis can be taken as such.

Since there is considerable over-diagnosis and under-diagnosis of both COPD and Asthma, due care would be taken by the MO at the FHC to ensure that patients are being correctly diagnosed.

Diagnosis of COPD – ALL of the following features should be present before a diagnosis of COPD is made

- Age of onset more than 40 yrs
- Significant expose to smoking, biomass smoke or industrial / work place smoke
- Typical symptoms –{(Predominantly exertional dyspnoea, which is persistent and progressive)OR (chronic cough and sputum production – cough with sputum production for at

least three months for two consecutive years)}

- Ruled out other common causes of dyspnoea, including cardiac problems (particularly if there is hypertension and diabetes) and obesity with deconditioning
- Rhonchi or bilateral decreased air entry on auscultation

Diagnosis of Asthma – the following symptoms should be present

- Age of onset less than 20 years*
- Associated atopy / allergic rhinitis
- Family history of Asthma / allergic rhinitis
- Typical symptoms – episodic dysponea, intermittent symptoms, triggers (allergens, cold etc.) and good relief of symptoms with medications like short acting bronchodilators
- Rhonchi on auscultation, when patient is symptomatic (Chest examination and CXR may be normal)

*Adult onset Asthma (late onset Asthma): some adults particularly women will present with Asthma for the first time in adult life. These patients tend to be non-allergic and often require high doses of inhaled corticosteroids or relatively refractory to corticosteroid treatment. Occupational asthma should be ruled out in such patients. These types of patients should be referred to higher centers/specialist for diagnosis.

In view of the crucial investigation, Spirometry not being done, care would be taken to avoid misdiagnosis. The following investigations should be done in all new patients before registering in SWAAS as COPD or Asthma.

- Sputum for AFB at a NTEP DMC
- Chest X-ray
- If the patient has symptoms of COVID 19 as per the suspect criteria of the State (this would vary from time to time), patient would be referred to a COVID 19 hospital for testing
- ECG and BP measurement

In the current scenario, it would be advisable to consider every patient as likely COVID 19 positive and take prescribed standard precautions. COVID 19 testing may also be done in suspicious cases, especially those presenting with acute exacerbation, depending on the availability of testing resources and guidelines for COVID 19 testing. Also ensure that there should not be any delay in providing adequate care for the patient while subjecting to COVID19 testing procedures.

In case of any uncertainty in diagnosis, then the patient should be referred to higher centre for expert opinion. If there is delay anticipated, and the uncertainty is between Asthma and COPD, then a provisional diagnosis of Asthma would be made and the treatment would be on lines with the treatment of Asthma. Also, if there is no improvement after starting treatment after syndromic diagnosis, then the patients would be referred to higher centre.

Treatment of COPD and Asthma

Acute exacerbation

Nebulisation:COPD and Asthma exacerbation are primarily managed by nebulisation. Nebulisation is a procedure which causes aerosol generation. However,nebulisation is such an important treatment modality for management of COPD and Asthma, that stopping nebulisation altogether would do considerable harm to these patients, including mortality. Hence nebulisation would need to be continued, with proper infection control precautions. All staff of the treating facilities would be educated on the need for airborne infection control during nebulisation and would be trained on what precaution

are to be taken.

The following options would be considered, and based on the feasibility in each treating facility, with support from local self-government institutions; the most feasible approach would be selected.

- Whenever a spacer is available with the patient, a salbutamol or salbutamol+Ipratropium MDI would be actuated, six puffs together into a spacer and multiple breaths (7 to 8 breaths) would be taken from the spacer. This can be repeated thrice with 20 minutes gaps in between before assessing the response. Large volume spacers are preferred;and if possible, would be advised to buy their own large volume spacers explaining the reasons for the same. If the response is inadequate, the patients should be referred to higher centre. At any point, if the patient has low saturation (<90%), silent chest and altered sensorium, immediate referral should be done).
- Instead of the nebulisation, injectable(Etofylline + Theophylline) combination and steroid would be given to the patient at the time of an exacerbation. However the MO has to be aware that such an approach is less effective and has higher change of adverse effects. Also, nebulisations can be repeated after 20minutes, whereas it is not advisable to repeat the injected drugs.
- Institutions would try to create corners / facility for nebulisation with airborne infection control in place. There could be three possible options
    - An open-air area for nebulisation, away from the patient waiting area but at a place where the nurse can closely monitor the patient can be prepared, This area would require a platform, wash area and a plug point
    - A nebulisation cubicle may be created, with an exhaust fan, similar to the COVID 19 specimen collection cubicles. A model design may be developed and provided to all treating facilities and the local self-government institutions
    - The treating facility can designate a room, if available, as nebulisation room. Such a room identified should have adequate cross ventilation and a functioning exhaust fan. The room should not be used for multiple purposes.
    - The health care worker working in the nebulisation corner should be provided with adequate PPE like N95/Triple layer surgical mask ,face shields, gloves etc

Oral Prednisolone use during exacerbation: The expert committee, based on international guidelines on the same issue, advises that avoiding systemic steroids during exacerbation of Asthma or COPD would do harm to patients. Hence all exacerbation of COPD and Asthma would be prescribed a short course (5 to 7days) of Prednisolone 1mg per kg, generally 30mg per day. Antibiotics will also be prescribed, if indicated.

Management of stable disease

For management for stable Asthma, there has been concern about use of inhaled steroids, however this has been clarified by the international agencies and inhaled steroids must be continued in patients with Asthma. Hence there will be no changesfrom the previous SWAAS guidelines with respect to the therapy of stable Asthma.

All patients with symptom frequency, after control of exacerbation, of at least once a month would be started on pharmacotherapy with inhaled budesonide-formoterol. Initial dose will be two puffs twice a day. Patient will be reassessed after one month, if the Asthma is well controlled inhaler will be stepped down to one puff twice daily. If the patient is only having partial control / uncontrolled, then the dose of two puffs twice daily will be continued. Further stepping down will be attempted at the end of three months. Any patient remaining uncontrolled despite offering care as per SWAAS guidelines at the FHC should be referred to a higher centre.

For management of stable COPD, the previous guidelines were dependent on spirometry and

classification of patients into Stages based on spirometry. This will no longer possible during the COVID 19 period. Hence the management would be modified. The management would be as follows

mMRC grade	Treatment
0 – 1	As required bronchodilators (either inhaled salbutamol or oral salbutamol / theophyllin)
≥ 2	Inhaled tiotropium

Inhaled bronchodilators would be preferred. However, inhaled corticosteroids (ICS-LABA – Formoterol Budesonide -200 µg) would be considered in COPD patients with frequent exacerbations (>2 per year) and those with high eosinophil counts (Absolute eosinophil counts more than 300/mm^3). However, inhaled corticosteroids (ICS-LABA – Formoterol Budesonide) would be started only after patient is started on Tiotropium and given a trial of Tiotropium for a month and when despite that inadequate response is there to the tiotropium.

Other issues

Smoking cessation: Smoking cessation is extremely important, particularly during the COVID 19 era. However, staff involved in smoking cessation activities would need to take air-borne infection control precautions as per the current guidelines. Use of telemedicine and mobile technology would be done to ensure non-contact sessions.

Inhaler training: without training patients on inhaler use and checking inhaler technique on follow-up visits, the use of these devices would be sub-optimal. So, every step should be taken to ensure this. For training patients on inhaler use and checking inhaler technique on follow-up visits also, telemedicine and mobile technology can be tried. Already available training videos and checking of technique over mobile based apps could be preferred

Pulmonary rehabilitation: Pulmonary rehabilitation remains a key non-pharmacologic modality in the management of COPD. Institution based rehabilitation, with multiple participants would be avoided but tele medicine and mobile technology based rehabilitation trainings and sessions would be continued

Management of co-morbidities: Management of co-morbidities like diabetes and hypertension is key to successful management of COPD and Asthma. The NCD program is developing strategies to ensure NCD care during the COVID 19 pandemic. It would be ensured that COPD and Asthma patients would have access to NCD care during the pandemic period.

Recording and reporting: Recording and reporting as per the SWAAS guidelines would be continued and MOs will ensure that this is done correctly and completely in a timely manner.

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Approval Valid

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