

SERUM TIMES

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SERUM MEDICAL BULLETIN

From the desk of the Editor-in-Chief

Dear Doctors/Readers,

We have been passing through rainy or monsoon season. Several monsoon-related diseases like malaria, dengue, chikungunya, diarrhoea, etc. have been rising in different parts of the country. The national capital has reported the emergence of monsoon-related diseases in a bigger way. Many of us know that high humidity during the monsoon season encourages the growth of bacteria and viruses. It is true rainy season is a respite for severe heating in the summer. But monsoon season is a time to be cautious about several diseases.



Doctors advise you to follow some tips to avoid infection during this season. These are 1) Keep yourself clean and dry. Take a bath daily and then dry yourself thoroughly. 2) Drink clean water. Diseases like cholera and typhoid. 3) Eat healthy and hygienic food to avoid contaminated food. Wash fruits carefully before eating. 4) Boost your immunity by eating balanced food, regular exercise, and enough sleep. 5) Avoid crowded places like markets, malls, and public transport. One should use masks in these places if these cannot be avoided. 6) Keep your eyes protected from rainwater. 7) Do not share your towels napkin with others. 8) Try to avoid using contact lenses. These can cause extreme dryness in the eyes which may result in redness and irritation. And lastly do not self-medicate.

In this issue, we are going to discuss respiratory diseases, i.e., Chronic Obstructive Pulmonary Diseases (COPD). Why is it important to discuss? This is because India bears 32% of the global burden of respiratory diseases. It is known that in India about 33.6% of COPD could be attributed to ambient air pollution - 25.8% to household air pollution and 21% to smoking.

Burden in India

How India is burdened with this can be clear with one data. India has 18% of the global population. However, India is burdened with 32% of the global respiratory diseases. A report (Indian Express, Sept 13, 2018) pointed out that the respiratory disease burden in India is second only to that of ischaemic heart disease. It was found in a state-level analysis of the Global Burden of Disease data. Moreover, chronic respiratory diseases were responsible for 10.9% of the total deaths and 6.4% of total DALYs (Death and Disability-Adjusted Life-years) in 2016. DALYs is a globally recognized disease burden estimate calculated on the basis of the number of productive life years cut short by diseases. The situation has been worsening as the comparable figures for 1990 were 9.6% and 4.5% respectively. The next story will discuss this problem in more detail.

Wish you a very happy Vishwakarma Puja and good health.

With thanks,

Sanjib Acharya

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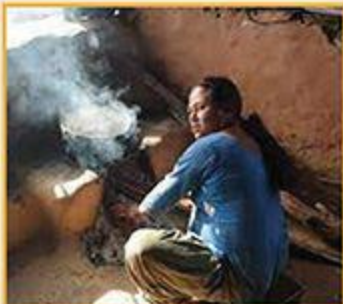
**COPD-the second highest killer after heart disease in India:
Awareness building is the remedy**

Chronic Obstructive Pulmonary Disease (COPD) is known to be the second-highest cause of death in India. In 2017 (the latest estimate so far) killed 958,000 Indians, according to the University of Washington's Global Burden Study, 2018. It is an incurable disease. Its progressive condition means inflames airways in the lungs and destroys air sacs. The sacs extract oxygen from the air and expel waste including carbon dioxide. Patients with COPD often cough, wheeze, and are short of breath.

How does it develop to a person?

It can be caused by long-term exposure to lung irritants and toxins in the air. In Western countries, it is majorly caused by smoking tobacco. But in developed countries like India, it springs from exposure to indoor and outdoor air pollution, more particularly burning biomass from wood to cow dung. It is surprising that the knowledge about the non-smoking risk of COPD is only a decade old. It has been rising as the quality of air has been deteriorating.

COPD prevalence in India (on the basis of an interview of Dr. Salvi with India Spend in March 2019) Earlier studies were done through questionnaires. Then prevalence was thought to be 2 to 3%. Now spirometry tests are used and the prevalence has been estimated at 5.5% to 7.5%. Kashmir has about 16 to 18% COPD prevalence. This is so high there as people use biomass there in a big way. The northern parts of India like J&K, Himachal Pradesh, and Uttarakhand.



Also avoid some commonly used things

Studies noted that mosquito coil is one of the big sources of COPD which revealed that one coil alone harms that 100 cigarettes can do. Coils harm Delhi people most according to a study. Dhoop and agarbati should be strictly avoided by all according to Salvi. The most vulnerable are the pregnant mothers. Then comes children under the age of five. People with lung diseases and elderly persons are also very vulnerable. So, raising consciousness among the people about this is the only solution.

How to take some vitamins in a single day

Some vitamins and minerals should not be taken together. For human nutrition vitamins and minerals are essential components for maintaining optimal health and well-being. These also contribute to many bodily functions. But when doctors prescribe these as food supplements one should note that these should not be taken together. Some combinations can lead to decreased absorption or even interfere with each other's benefits. So, proper nutritional synergy has been crucial for our overall health. Some supplements may be administered daily, many times a day, or even weekly. In the following some supplements that should either not go together or not with food.

Magnesium and calcium

These two minerals work together and must be balanced to be effective. Magnesium does help with calcium absorption but any imbalance may actually produce the opposite effect. Researchers have observed that the calcium to magnesium ratio is within 2:1. Above that ratio may cause a risk of metabolic, inflammatory, and cardiovascular disorders.

Iron and green tea

One should not eat or take iron supplements or iron-rich foods at the same time as green tea. This is because epigallocatechin gallate (EGCG) is the main component in green tea and it is bound with iron. This will reduce iron absorption. Studies have noted that one can drink green tea after taking iron supplements.

Vitamin C and vitamin B12

It is known that high doses of vitamin C can reduce the amount of vitamin B12 that is absorbed and metabolized by the body. So, these two vitamins should be taken with at least a 2-hour gap.



Types of water soluble vitamin	Types of fat soluble vitamin
Vitamin-B	Vitamin-A
Vitamin-C	Vitamin-D
	Vitamin-E
	Vitamin-K

Fat-soluble and water-soluble vitamins

These are not so problematic. At the same time, some articles mention that many doctors advise not to take these two items at a time. According to these doctors, vitamin D is a fat-soluble vitamin that is absorbed better with food, while B-12 is a water-soluble vitamin that should be consumed on an empty stomach. A similar should be the case for vitamin C and vitamin D.

In the Checkup, a health magazine, Heidi Borst points out on October 21, 2022, about many other vitamins consumption restrictions in the following way:

Water soluble vitamins that are not stored in the body, like vitamins C and B vitamins as well as thiamine (B1), riboflavin (B2), niacin (B3), pantothenic acid (B5), pyridoxine (B6), biotin (B7), folate/folic acid (B9), and cobalamin (B12)- these all require water to be absorbed and used by the body. So, doctors advise that all these vitamins are best to take them without food but with a glass of water.

CASE PRESENTATION by Dr. Chirasri Goswami (MBBS, MD) Consultant Histopathologist

CASE PROFILE: A 62-year-old lady, resident of Bihar presented with goitre, a left hemithyroidectomy was done & specimen was sent.

DIAGNOSIS: Papillary Thyroid Carcinoma with Squamous Differentiation (PTC - SD).

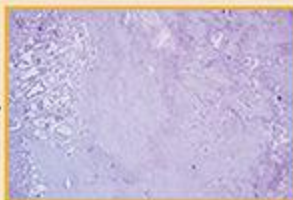
INCIDENCE: Only 11 cases reported worldwide in the last 20 years (sciencedirect.com).

MICROSCOPIC FINDINGS: Infiltrating follicles & few papillae lined by optically clear nuclei with pseudo nuclear inclusions, focal calcifications, and trabeculae of cells showing squamous differentiation with the presence of squamous pearls.

PROGNOSIS: Selected case reports have suggested that (PTC- SD) is an aggressive tumor with a poor prognosis (less than 1-year survival).

IMMUNOHISTOCHEMISTRY: CK19, CK5/6 thyroglobulin, TTF1 & MIB1 positivity.

CYTOGENETICS: EGFR gene polymorphism, & increased EGFR expression, may represent target chemotherapy.



CSR Activities & Events of SERUM throughout August, 2023



Aug 13: Sri Sanjib Acharya attended the Blood Donation Camp organised by Bagbazaar Sahajya



Aug 13: Sri Sanjib Acharya at the Blood Donation Festival organised by Sovabazar Yuba Jagran



Aug 15: SERUM Group celebrates the Independence Day - Car Rally



Aug 27: Sri Sanjib Acharya at the Blood Donation Camp organized by Chitpur Pasco Club



Aug 27: Sri Sanjib Acharya was present at the event to introduce Sharad Otsab & Blood Donation organized by Simla Sporting Club



Aug 27: Sri Sanjib Acharya at the Blood Donation & Health Checkup Camp organized by Nation Club



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