



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health, Nutrition & Indigenous Medicine

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Chronic Respiratory Diseases Part I

This is first part of the series of two articles

Breath and circulation are fundamentals for the life. But are we less considering lung health as a critical factor compared to other health factors like blood pressure and weight? Anyone who feels shortness of breath for a moment knows its burden. Chronic respiratory diseases are a broad spectrum of diseases that affect the airways, interstitial tissues, and vasculature of the lungs. Most common are Chronic Obstructive Pulmonary Disease (COPD), Bronchial asthma, Bronchiectasis, Interstitial lung diseases (ILD), and pulmonary hypertension.

Risk Factors

- Tobacco is the number one risk factor for chronic lung diseases.
- Indoor and outdoor air pollution
- Occupational health hazards like chemicals and dust (organic and inorganic dust)
- Frequent infection since childhood
- Poor immunity (Primary or secondary immune deficiencies)
- Diet and nutrition



The burden

Nearly 262 million people including children

throughout the world are suffering from Bronchial asthma proving that it is the most common chronic lung disease in the world. Further, another 64 million are affected by COPD in two forms of emphysema and chronic bronchitis, especially in low and middle-income countries. WHO predicts that it will be the third leading cause of death by 2030. Three billion people all over the world are using solid fuel for cooking inside their homes and this has caused 2 million death each year. Women and children are suffering most from indoor air pollution as they stay inside longer than men, particularly in low-income countries. Chronic lung diseases have awful impacts on all aspects of the lives of the affected including social, economic, and psychiatric aspects. And also it is a burden to their family and the community.

Symptoms

- Breathlessness- It is often increased with exercise.
- Wheezing –is reversible in asthma and not reversible in COPD.
- Chronic cough – It may be non-productive/ productive depending on the underlying disease.
- Frequent chest infections.

Bronchial asthma

Bronchial asthma is very complex to understand. The main pathophysiological events in bronchial asthma are airway inflammation, airway hyperresponsiveness, and intermittent airway outflow obstruction. Asthma attacks could be triggered by allergens like house dust mites, animal fur, pollen, exercise, gastroesophageal reflux disease, drugs like aspirin, and emotional stress. Sometimes these patients have a positive family history of bronchial asthma. Wheez-

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ing and breathlessness can be reversed by medication unlike in COPD. Childhood asthma may be resolved by the time of late adolescence. Adulthood asthma may be well controlled by regular medications and sometimes may develop into COPD. Asthma patients typically present with Cough, wheezing, chest tightness, and breathlessness. Asthma exacerbation could be fatal sometimes. Avoiding risk factors and regular usage of preventive and symptomatic medications are keys to having a smooth life for asthma patients.

COPD

It is an irreversible airway obstruction primarily caused by tobacco smoking. But cystic fibrosis. Alpha 1 antitrypsin deficiency and bullous lung diseases can contribute to it in other instances. There are two variants. Chronic bronchitis and emphysema. COPD patients are very susceptible to recurrent chest infections. Frequent hospitalization with exacerbation is a heavy burden to their families. Most of the time they ended up with respiratory failure, eventually cardiac failure.

Interstitial lung disease

It is another broad spectrum of diseases that affect the interstitial tissue in the lung. Most of the time it is idiopathic and connective tissue disorders, other autoimmune diseases, drugs, and exposure to organic and inorganic particles that could give rise to ILD. Progression of the disease could be halted by removing possible risk factors but the damage already occurred to lung tissue cannot be reversed in ILD. They often present with breathing difficulty while on exertion. These patients too are at risk of recurrent lung infections and immunosuppressive drugs that treat the disease itself could provoke infections elsewhere in the body. Most of the time palliative care is the option where there is no facility or physical fitness for lung transplantation.

Pulmonary Hypertension

Pulmonary hypertension could be either primary or secondary. It is defined as pulmonary arterial pressure greater than 25mmHg in rest and eventually sustaining pulmonary vasculature resistance leading to right ventricular failure. Treatment for the underlying cause is the key to saving the life. But in primary pulmonary hypertension drug agents that reduce pulmonary vascular pressure can be used. Clinical symptoms are not specific and may be masked by the symptoms of the underlying disease. Prognosis is variable and depends on the aetiology, age, and presence of right ventricular failure.

Occupational lung diseases

It is a group of diseases caused by occupational exposures occurred at the workplace. More common are pneumoconiosis, hypersensitivity pneumonitis, Asbestosis, Sarcoidosis, and lung fibrosis. COPD also can be caused or aggravated by occupational exposures. Some dust or particles can cause even lung cancer. Occupational lung diseases can be prevented by implementing standard safety methods for workers.

Diagnosis

Chronic lung diseases are often under diagnosed. Proper history is an essential part to make a correct diagnosis. Diurnal variation of symptoms, smoking history, exposure history to environmental and occupational hazards, drug history, and family history of respiratory diseases are key points that should be contained in the history. Physical examination also plays an important role in making the diagnosis. Chest x-ray, CT scans of chest, pulmonary function test, and sometimes lung biopsy may be needed to perform not only to conclude but also to stage the disease.

Treatment

Most of the time these diseases are incurable once the lung is damaged permanently. But we can limit the progression of disease after taking proper measures and treatments. Childhood asthma could be disappeared at late adolescent age. Other chronic lung diseases are irreversible most of the time. Inhaled medicine could be used for many of these patients to relieve breathlessness through broncho dilation. It is proven that steroid inhalation controls the progression of asthma and reduces deaths. COPD patients also benefit from inhaled steroids. But key treatment for COPD is the avoidance of tobacco smoking. Immunosuppressive drugs are used for ILD since most of the time they are autoimmune in origin.

Sometimes a multidisciplinary team has to attend to these patients including respiratory physicians, radiologists, pathologists, nurses, and physiotherapists to support their further management..

Compiled by:

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Ministry of Health

Table 1: Selected notifiable diseases reported by Medical Officers of Health 25th-01^h Oct 2021 (40th Week)

RDHS	Dengue Fever		Dysentery		Encephaliti		Enteric Fever		Food Poi-		Leptospirosis		Typhus		Viral Hep-		Human		Chickenpox		Meningitis		Leishmania-		WRCD		
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**	
Colombo	13	3734	0	10	0	1	0	4	0	3	5	149	0	1	0	2	0	2	0	22	1	10	0	1	45	100	
Gampaha	42	1891	0	2	0	5	0	1	0	0	14	193	0	5	0	4	0	5	1	23	0	12	0	12	22	75%	
Kalutara	30	1079	0	11	0	2	0	3	0	0	41	480	0	3	0	1	0	1	0	68	1	19	0	0	33	99%	
Kandy	13	575	0	18	0	1	0	3	0	2	2	116	0	35	0	1	0	0	0	34	0	15	3	26	57	100	
Matale	7	167	0	13	0	4	0	0	0	0	0	67	0	5	0	1	0	0	0	12	0	6	9	202	52	100	
NuwarEliya	0	40	0	12	0	2	0	2	0	0	3	51	1	37	0	4	0	0	0	25	0	7	0	1	28	100	
Galle	18	327	0	7	0	1	0	5	1	7	33	584	0	27	0	2	0	0	0	51	2	30	0	1	38	100	
Hambantota	7	288	0	11	0	2	0	2	0	5	3	224	0	67	0	7	0	0	1	46	0	33	4	409	69	100	
Matara	6	426	0	3	0	1	0	1	0	0	8	226	0	17	0	2	0	0	0	1	53	1	11	13	236	43	100
Jaffna	0	124	0	40	0	3	0	15	0	27	0	17	0	438	0	0	1	6	0	28	0	3	0	2	23	88%	
Kilinochchi	0	25	0	24	0	0	0	2	0	10	0	55	0	79	0	0	0	0	0	10	0	0	0	1	53	100	
Mannar	0	25	1	6	0	0	0	4	0	0	0	27	0	2	0	0	0	0	0	3	0	19	0	1	37	100	
Vavuniya	0	35	0	2	0	1	0	1	0	1	0	23	0	2	0	1	0	0	0	6	0	1	0	1	36	100	
Mullaitivu	0	5	0	3	0	0	0	0	0	1	1	33	0	8	0	0	0	0	0	9	0	6	0	0	20	100	
Batticaloa	3	3000	0	30	0	4	0	2	2	21	1	41	0	0	0	1	0	0	2	14	0	24	0	0	46	100	
Ampara	2	38	0	9	0	0	0	1	0	7	1	55	0	1	0	3	0	0	1	40	0	13	2	11	59	100	
Trincomalee	1	127	0	0	0	0	0	0	0	2	0	4	0	0	0	2	0	0	0	16	0	2	0	0	26	100	
Kurunegala	16	932	1	19	0	4	0	0	0	3	18	264	1	26	1	4	0	2	0	44	0	80	9	303	37	100	
Puttalam	1	290	0	2	0	1	0	0	0	0	0	22	0	15	0	1	0	1	0	17	0	33	0	9	40	97%	
Anuradhapur	2	190	1	11	1	1	0	1	0	3	0	220	0	25	0	4	0	0	0	31	4	38	9	221	25	91%	
Polonnaruwa	0	66	2	6	0	1	0	3	0	9	1	110	0	3	0	3	0	0	0	26	0	2	10	366	37	100	
Badulla	13	216	0	9	0	0	0	1	0	0	1	277	1	44	0	32	0	0	3	38	0	16	0	18	43	100	
Monaragala	7	112	0	6	0	0	0	3	0	5	11	326	2	31	0	68	0	0	0	24	4	53	3	34	49	100	
Ratnapura	3	428	1	27	0	6	0	0	0	5	5	630	1	20	1	9	0	1	1	49	1	69	1	103	34	95%	
Kegalle	5	370	0	4	0	11	0	0	0	2	17	254	1	12	0	1	0	0	0	80	1	26	1	18	39	100	
Kalmune	1	271	0	13	0	2	0	1	0	1	1	18	0	1	0	2	0	2	0	15	3	14	0	2	45	100	
SRILANKA	30	14781	6	298	1	53	0	55	3	114	166	4466	7	904	2	155	1	20	10	784	18	542	64	1978	40	97%	

Source: Weekly Returns of Communicable Diseases (esurveillance.epid.gov.lk). T= Timeliness refers to returns received on or before 01st Oct., 2021 Total number of reporting units 361 Number of reporting units data provided for the current week: 349 C**-Completeness 41

Table 2: Vaccine-Preventable Diseases & AFP

25th–01^h Oct 2021 (40th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2021	Number of cases during same week in 2020	Total number of cases to date in 2021	Total number of cases to date in 2020	Difference between the number of cases to date in 2021 & 2020
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	01	00	00	00	00	01	00	00	00	02	00	51	35	45.7 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Mumps	00	00	00	00	00	00	00	00	00	00	00	59	145	- 59.3 %
Measles	00	00	00	00	00	00	00	00	00	00	01	11	46	- 76.0 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Tetanus	00	00	00	00	00	00	00	00	00	00	00	02	03	- 33.33%
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	00	04	31	- 87 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	01	00	08	- 100%
Tuberculosis	00	00	00	15	02	02	14	07	06	46	102	3802	4969	- 23.4 %

Key to Table 1 & 2

Provinces: W: Western, C: Central, S: Southern, N: North, E: East, NC: North Central, NW: North Western, U: Uva, Sab: Sabaragamuwa.
RDHS Divisions: CB: Colombo, GM: Gampaha, KL: Kalutara, KD: Kandy, ML: Matale, NE: Nuwara Eliya, GL: Galle, HB: Hambantota, MT: Matara, JF: Jaffna, KN: Killinochchi, MN: Mannar, VA: Vavuniya, MU: Mullaitivu, BT: Batticaloa, AM: Ampara, TR: Trincomalee, KM: Kalmunai, KR: Kurunegala, PU: Puttalam, AP: Anuradhapura, PO: Polonnaruwa, BD: Badulla, MO: Moneragala, RP: Ratnapura, KG: Kegalle.
Data Sources: Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS, Special Surveillance: AFP* (Acute Flaccid Paralysis), Japanese Encephalitis
CRS** =Congenital Rubella Syndrome
NA = Not Available

Covid-19 Prevention & Control

For everyone's health & safety, maintain physical distance, often wash hands, wear a face mask and stay home.

Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to chepid@slt.net.lk. **Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

ON STATE SERVICE

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