WEEKLY EPIDEMIOLOGICAL REPORT

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Ministry of Health & Indigenous Medical Services

231, de Saram Place, Colombo 01000, Sri Lanka
Tele: + 94 11 2695112, Fax: +94 11 2696583, E mail: epidunit@sltnet.lk
Epidemiologist: +94 11 2681548, E mail: chepid@sltnet.lk
Web: http://www.epid.gov.lk

WEEKLY EPIDEMIOLOGICAL REPORT SRI LANKA 2020

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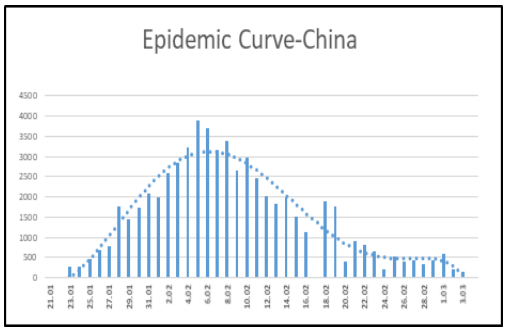
How did China control COVID-19? Part I



COVID-19 was first discovered in late December 2019 from Wuhan city in the Hubei Province, China. Considerable increase of cases caused an epidemic in the country later a pandemic globally. However, China successfully recovered from the deadliest virus with approximately 81,000 individuals being infected and sacrificing 3200 lives. This article was based on the online Webinar conducted by the Chinese Health Commission after successfully combatting the disease and on the WHO-China Joint Mission Report on COVID 19.

Epidemiological Characteristics

COVID 19 is a beta type coronavirus but genetically different from SARS and MERS. With the available evidence, the incubation period is ranging from 2-14 days. However, in many affected individuals, it had been around 3-7 days. This virus is sensitive to the ultraviolet light, and it can be killed by heating at least 30 mins, in 56^{0}C, 75% ethanol and chlorine-containing disinfectant.

How the transmission has occurred,

Main modalities of transmission are,

- Droplets (coughing and sneezing during a face-face encounter),
- Contact transmission - upper respiratory secretions of an infected person are touched by hands of an uninfected person, then to his nose, mouth or eye.

Majority of the transmission has occurred through close contacts from symptomatic patients. Many early transmissions were driven through the families. Preliminary studies have revealed that the secondary attack rate in households ranges from 3-10%. Transmission in the health care facilities and prisons was not a major contributor to the transmission in Chinese settings. Transmissibility of the disease was denoted by R0 (basic reproduction number - the expected number of cases directly generated by one case in a population where all individuals are susceptible to infection) was reported as 2.2 to 6.47.

Around 60% of the confirmed cases were

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among 40 – 70 years of age, while 80% of the deaths were reported in the 60-90 years, age groups.

Natural history,

Almost all the cases showed the symptoms before they were diagnosed. The main symptoms were fever, dry cough, fatigue, productive cough, shortness of breath, sore throat, headache, myalgia or arthralgia, chills, nausea or vomiting, nasal congestion, diarrhoea, hemoptysis and conjunctiva congestion.

Out of the patients, 80% were diagnosed as COVID 19 positive at their mild/moderate stage of the disease, 15% at the severe stage while 5% were at the critical stage. During the course of the disease, 10-15% of the mild/ moderate group shifted to the severe group, while 15-20% of the severe group became to the critical ill stage. According to the Chinese experience, the average incubation period was 5-6 days. Further, on average the mild cases took 2 weeks and severe cases took 3-6 weeks to fully recover from the disease. Average time from onset of symptoms to death was reported as 2-8 weeks.

The severe forms of the disease and the deaths were reported more in those who more than 60 years of age and those who with co-morbidities such as hypertension, diabetes, cardiovascular disease, chronic respiratory disease and cancer. The crude case fatality rate (CFR) has been reported as 3.8%. Further, males have reported a higher CFR compared to females (4.7% to 2.8%). People with no co-morbidities reported a CFR of 1.4% while those with diabetes and cardiovascular disease reported 9.2% and 13.2% respectively. (Hypertensive – 8.4%, chronic respiratory disease – 8.0% and Cancer 7.6%)

The disease showed less severe among children compared to the older ager groups.

Virology

It is important to note that the highest amount of virus shedding leading to the maximum infectivity was seen in the early phase of the disease. Which is differs from SARS where the virus shedding peaks at least 5 days after the onset of symptoms. Further in COVID-19, the virus shedding can occur 1-2 days before to the onset of the symptoms. Moreover, the virus shedding continues for 7-12 days in mild/moderate cases while in severe cases it went on for more than 2 weeks. Hence, PCR may become positive even after the symptoms subsides. The COVID-19 virus has been isolated from the stools among the positive cases but cases of feco-oral transmission so far not been reported.

Risk categorization

Level of risk	Case Load	Actions taken
Low	Zero cases	Strictly prevent importation from high-risk areas Fever clinics at OPDs, to identify the patients early Health education on disease and its prevention
Moderate	Sporadic cases	Measures to prevent the importation and stop local transmission Measures were taken at the low-risk areas and, Improve the readiness of the local hospitals to accept patients (drugs, number of beds, health personnel) Identified new locations to set up treatment facilities
High	Cluster of cases	Measures to stop local transmission, prevent exportation and strict prevention and control measures Measures were taken at the moderate risk areas and, Physical distancing control entry-exit points Active surveillance for fever and timely admission Close contacts were kept under medical observation Routine disinfection of places with community transmission and clustering of cases

to be continued ...

Table 1: Selected notifiable diseases reported by Medical Officers of Health 15th – 21st Feb 2020 (08th Week)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishmaniasis		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	138	2276	0	7	0	3	0	3	0	13	4	45	0	0	0	2	0	0	15	81	1	11	0	0	**54**	**99**
Gampaha	87	1394	0	3	0	0	1	1	0	0	3	25	0	0	0	0	0	0	17	123	0	5	0	13	**45**	**100**
Kalutara	55	751	0	5	1	4	1	3	0	1	9	60	0	5	0	0	0	0	17	71	3	8	0	0	**11**	**100**
Kandy	62	913	0	4	1	1	0	6	0	0	2	11	8	27	0	1	0	0	7	41	2	11	1	16	**64**	**100**
Matale	23	359	0	3	0	2	0	1	0	3	0	11	1	2	1	2	0	1	1	16	0	1	15	77	**60**	**100**
NuwaraEliya	5	100	0	6	0	0	0	0	0	0	2	9	1	24	0	0	0	0	6	22	0	3	0	0	**16**	**100**
Galle	51	867	1	8	2	6	0	2	1	12	19	124	1	19	0	1	0	0	15	132	2	8	0	2	**55**	**99**
Hambantota	12	217	0	4	0	0	0	1	8	10	2	47	1	10	0	2	0	0	6	65	0	4	21	171	**71**	**100**
Matara	29	324	1	6	1	3	0	0	0	0	8	73	1	4	0	6	0	0	7	59	0	4	18	101	**51**	**100**
Jaffna	118	1455	5	25	0	0	1	11	0	14	2	8	52	368	0	0	0	1	3	28	0	2	0	0	**32**	**93**
Kilinochchi	6	89	1	7	0	0	0	2	0	0	0	4	1	11	0	0	0	0	0	2	0	3	0	1	**63**	**100**
Mannar	1	111	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	1	2	0	0	**43**	**100**
Vavuniya	9	190	0	3	0	0	0	3	0	0	1	28	0	0	0	0	0	0	0	6	0	3	0	0	**47**	**100**
Mullaitivu	5	57	0	3	0	0	0	2	0	1	0	9	0	2	0	0	0	1	0	1	0	0	1	3	**44**	**75**
Batticaloa	149	1623	3	21	0	0	0	0	0	2	0	10	0	0	0	0	0	0	7	37	1	9	0	1	**62**	**100**
Ampara	12	229	1	4	0	1	0	0	0	0	3	18	0	0	0	0	0	0	5	35	0	7	0	4	**57**	**100**
Trincomalee	91	1919	0	4	0	0	0	0	0	1	1	10	0	1	0	0	0	0	6	42	0	5	0	0	**53**	**91**
Kurunegala	26	567	1	5	0	3	0	2	0	27	4	46	1	8	0	1	0	0	22	142	1	4	16	111	**51**	**100**
Puttalam	12	283	1	5	1	1	0	2	0	0	2	14	0	9	0	0	0	1	6	34	1	12	0	2	**69**	**100**
Anuradhapur	20	256	1	5	0	1	1	2	1	19	5	105	0	7	0	1	0	1	12	64	0	11	7	63	**53**	**96**
Polonnaruwa	11	144	0	4	0	0	0	0	0	0	7	47	0	0	0	2	0	0	13	40	1	6	7	61	**56**	**100**
Badulla	22	306	0	5	0	1	0	2	0	3	8	64	0	7	1	5	0	0	3	51	0	11	0	2	**59**	**100**
Monaragala	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Ratnapura	31	455	4	27	0	9	0	1	0	11	18	189	2	9	1	5	0	0	10	71	3	27	0	18	**48**	**100**
Kegalle	21	278	0	3	0	3	0	1	0	10	3	51	1	13	0	2	0	0	13	62	0	8	1	8	**58**	**100**
Kalmune	57	723	3	21	0	2	0	0	0	0	1	2	0	2	0	0	0	0	14	78	0	8	0	0	**75**	**100**
SRILANKA	**1053**	**15886**	**22**	**188**	**6**	**40**	**4**	**45**	**10**	**127**	**10**	**101**	**70**	**529**	**3**	**30**	**0**	**5**	**205**	**1303**	**16**	**173**	**87**	**654**	**55**	**95**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 21st February , 2020 Total number of reporting units 356 Number of reporting units data provided for the current week: 335 **C****-Completeness

A = Cases reported during the current week. **B** = Cumulative cases for the year.

Table 2: Vaccine-Preventable Diseases & AFP

15th – 21th Feb 2020 (08thWeek)

Disease	No. of Cases by Province									Number of cases during current week in 2020	Number of cases during same week in 2019	Total number of cases to date in 2020	Total number of cases to date in 2019	Difference between the number of cases to date in 2020 & 2019
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	00	00	00	00	00	01	06	16	- 62.5 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	01	00	01	00	01	01	00	00	00	04	11	29	60	- 51.6 %
Measles	00	00	00	00	00	00	00	00	00	00	03	06	33	- 81.8 %
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	03	03	0 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Encephalitis	00	00	01	00	00	00	00	00	00	01	00	07	02	250 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	02	02	13	- 84.6 %
Tuberculosis	37	00	27	02	09	02	30	13	10	128	80	991	1322	- 30.5 %

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

Number of Malaria Cases Up to End of February 2020,

02

All are Imported!!!

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@sltnet.lk. Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

ON STATE SERVICE

Dr. Sudath Samaraweera
CHIEF EPIDEMIOLOGIST
EPIDEMIOLOGY UNIT
231, DE SARAM PLACE
COLOMBO 10