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

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Human Immunodeficiency Virus and COVID 19

Human Immunodeficiency virus

Human Immunodeficiency Virus (HIV) is the organism that causes HIV infection. It is an RNA virus that attacks and destroys CD4 cells of the immune system. The loss of CD4 cells makes it difficult for the body to fight infections and certain cancers. The infection can be well controlled if diagnosed early and proper treatment is continued for a lifetime, and then infected persons can lead a normal life span without limiting their life span due to the infection. However, if left untreated, HIV can lead to AIDS which can adversely affect the health of the individual and shorten the life span.

Human Immunodeficiency Virus is mainly spread via semen, pre-seminal fluid, rectal fluids, vaginal fluid through sexual contact, breast milk, through damaged tissue or directly being injected into the bloodstream. This can be well controlled if diagnosed early. The best way to prevent people from getting HIV infection is safe sex practices and prevention of transmission of the infection. Taking anti-retroviral therapy can prolong the life of people who are infected with HIV and keep them healthy and lower the chance of transmitting the virus to others. It further increases the CD 4 cell count and improves their immunity level. Therefore, it is essential to know the HIV status of people, mainly those who have a high risk of transmitting the disease to others.

Groups identified as having the highest risk of HIV are named as key populations. They are namely, sex workers, people who inject drugs, men who have sex with men, the transgender community, and prisoners. Their key behaviour creates a vulnerable environment to acquire and transmit other infections such as SARS CoV 2 infection.

SARS Co-V 2 infection

Coronaviruses (CoVs) are enveloped, nonsegmented, positive-sense single-stranded RNA (ssRNA) viruses that belong to the *Coronaviridae* family. They can infect both humans and animals.

In 2019, a novel zoonotic coronavirus, a close relative of the 2002 SARS-CoV which causes severe acute respiratory syndrome CoV 2 (SARS-CoV-2) emerged in Hubei province, China. The disease caused by the virus was named coronavirus disease 2019 (COVID-19). The clinical picture ranges from asymptomatic, through mild respiratory tract infections and influenza-like illness (mainly fever, cough, and fatigue), to severe disease with accompanying lung injury, multiorgan failure, and death. Lungs are the main gate of infection; however, SARS-CoV-2 RNA has been detected in the kidneys, liver, heart, brain, and blood samples at autopsy.

HIV and COVID 19

People living with HIV (PLHIV) who are not on antiretroviral drugs (ART) and have a low CD4 cell count (< 200) have a higher risk of acquiring opportunistic infections compared to the general population. There is evolving evidence regarding the acquisition of SARS – CoV - 2 infection among the above-mentioned group compared to the general population.

Measures taken to minimize infection of COVID 19 among PLHIV include issuing anti-retroviral

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drugs for a longer duration (more than one month), provision of community-based health care services, drop-in centers, and outreach services for condom distribution, testing and treatment services, etc.

Effect of COVID 19 among HIV infected breastfeeding and lactating women

Since there is no much evidence showing the proven benefit of ART in the prevention of transmission of HIV, it is advised to continue ART in pregnancy and lactation to keep mothers healthy as possible. Further, general COVID preventive measures should be adhered to by the mothers specially when breastfeeding, as they can acquire SARS CoV 2 infection and transmit it to the baby.

Administering COVID 19 Vaccination to HIV infected pregnant and lactating women

There is sparse evidence on the safety of COVID 19 vaccines over pregnant women and those who are lactating within the first six months. Therefore, all the HIV-infected pregnant and lactating women during the baby's first six months should not be vaccinated till there is ample evidence to ensure safety among the above-mentioned groups.

Use of antiretroviral treatment for prevention of HIV

Few studies have assessed the use of anti-retroviral drugs to prevent SARS – CoV2 infection. One study has suggested that PLHIV who use Tenofovir Disoproxil fumarate (TDF) were less likely to contract SARS-CoV-2.

Several studies have assessed whether ART can be used to prevent infection from SARS-CoV2. On the contrary, other studies done to assess the benefit of Tenefoir based HIV pre-exposure prophylactic (PrEP) drugs have not shown protection against SARS CoV- 2 infections.

People taking PrEP or who are taking ART with the hope of preventing COVID-19 need to adopt the same COVID-19 prevention measures as recommended for people in the general population such as maintaining social distance, wearing masks, and frequent hand washing.

COVID 19 vaccine and HIV

Is COVID 19 vaccine safe for people living with HIV?

There is no evidence to suggest that PLHIV are at a greater risk of COVID 19 vaccine over the general population (UNAIDS COVID 19 vaccine and HIV). They may also experience similar side effects such as mild fever and malaise. A very few numbers can get a severe reaction, the same as the other community. To avoid serious adverse events following COVID 19 immunization, they are observed for 20 minutes at the vaccination site, under the observation of experienced health professionals.

People living with HIV who virally suppressed and had CD 4 cell count > 200 and were infected with SARS-CoV-2 have shown similar clinical features as the general population. A study done by LaSota et al. in 2019 revealed that SARS-CoV-2 does not act as an opportunistic pathogen in patients with uncontrolled HIV or AIDS (LaSota et al. 2020).

On the other hand, HIV is associated with a doubling of COVID 19 mortality risk. (Western Cape Department of Health in collaboration with the National Institute for Communicable Diseases, South Africa).

Why PLHIV should be vaccinated against COVID 19?

People living with HIV are also benefited from getting the COVID 19 vaccine, the same as the general population through prevention from severe disease or minimization of transmission.

Table 1 : Water Quality Surveillance
Number of microbiological water samples Nov 2020

District	MOH areas	No: Expected *	No: Received
Colombo	15	90	NR
Gampaha	15	90	NR
Kalutara	12	72	NR
Kalutara NIHS	2	12	NR
Kandy	23	138	NR
Matale	13	78	NR
Nuwara Eliya	13	78	10
Galle	20	120	NR
Matara	17	102	NR
Hambantota	12	72	NR
Jaffna	12	72	96
Kilinochchi	4	24	33
Manner	5	30	0
Vavuniya	4	24	37
Mullatvu	5	30	NR
Batticaloa	14	84	NR
Ampara	7	42	NR
Trincomalee	11	66	NR
Kurunegala	29	174	NR
Puttalam	13	78	NR
Anuradhapura	19	114	NR
Polonnaruwa	7	42	0
Badulla	16	96	NR
Moneragala	11	66	NR
Rathnapura	18	108	NR
Kegalle	11	66	0
Kalmunai	13	78	NR

* No of samples expected (6 / MOH area / Month)
NR = Return not received

Table 1: Selected notifiable diseases reported by Medical Officers of Health 12th– 18th Dec 2020 (51st 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	39	4227	0	31	0	9	0	7	0	18	5	419	0	3	0	5	1	1	0	225	0	50	0	3	**56**	**100**
Gampaha	13	2640	1	13	0	8	0	7	0	20	0	308	0	8	0	8	0	2	0	265	1	37	0	60	**37**	**98**
Kalutara	13	1672	0	19	0	7	0	6	0	3	5	988	0	14	0	6	0	2	3	299	3	63	0	0	**47**	**97**
Kandy	17	3437	0	36	0	1	0	11	0	22	4	334	1	125	0	21	0	0	1	174	1	34	2	79	**63**	**100**
Matale	2	589	0	13	0	4	0	7	0	6	9	133	1	12	0	12	0	1	0	68	0	7	3	341	**63**	**100**
NuwaraEliya	0	168	0	40	0	2	0	8	0	9	2	138	1	106	0	4	0	0	2	88	0	18	0	1	**24**	**100**
Galle	0	1665	0	42	0	19	0	6	1	50	18	1184	2	73	0	9	0	2	2	322	3	76	0	6	**37**	**100**
Hambantota	2	367	0	13	0	4	0	3	3	56	7	282	0	75	0	9	0	2	1	211	5	67	26	751	**73**	**100**
Matara	2	543	0	29	0	17	0	1	0	4	26	618	0	20	0	16	0	0	3	144	1	29	8	401	**25**	**100**
Jaffna	11	2144	1	113	0	1	0	23	0	87	1	35	23	731	0	3	0	2	1	122	0	12	0	3	**25**	**93**
Kilinochchi	0	135	0	47	0	2	0	11	0	34	2	26	3	51	0	1	0	0	0	17	0	12	0	13	**63**	**100**
Mannar	1	136	0	0	0	1	0	3	0	2	2	11	0	2	0	0	0	1	0	2	1	20	0	1	**42**	**100**
Vavuniya	0	251	0	15	0	0	0	6	0	3	1	53	0	4	1	1	0	0	0	34	0	4	0	1	**58**	**100**
Mullaitivu	1	87	0	14	0	0	0	6	0	5	3	32	0	16	0	3	0	2	0	15	0	7	0	7	**35**	**100**
Batticaloa	248	3439	0	97	0	10	0	2	0	52	0	40	0	0	0	8	0	1	1	111	2	50	0	1	**49**	**100**
Ampara	0	318	0	21	0	4	0	0	0	1	4	115	0	0	0	4	0	0	1	132	0	19	1	8	**71**	**100**
Trincomalee	2	2294	0	20	0	1	0	1	0	2	1	32	0	11	1	15	0	0	0	109	0	10	0	1	**40**	**100**
Kurunegala	11	966	3	30	0	13	0	5	0	38	26	321	2	37	1	10	0	5	2	343	1	53	9	490	**46**	**100**
Puttalam	4	498	3	18	0	5	0	3	0	1	7	72	0	19	0	2	0	1	0	85	0	76	0	10	**55**	**100**
Anuradhapur	1	430	2	27	0	3	0	4	1	34	20	340	0	31	0	19	0	2	2	198	1	75	1	339	**39**	**100**
Polonnaruwa	0	248	0	12	0	1	0	0	0	13	4	173	0	1	0	26	0	1	2	159	0	19	6	370	**51**	**100**
Badulla	5	515	0	32	0	7	0	4	0	12	5	407	1	114	1	19	0	0	1	174	0	40	1	30	**47**	**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	6	2013	1	108	0	29	0	6	0	40	10	1581	2	60	0	17	0	1	5	196	2	115	3	156	**49**	**100**
Kegalle	7	862	0	19	1	11	0	6	0	18	9	657	0	49	0	22	0	0	1	209	1	76	0	51	**59**	**100**
Kalmune	0	976	0	57	0	4	0	1	0	9	1	24	0	2	0	3	0	0	0	278	0	50	0	0	**53**	**100**
SRILANKA	**385**	**30620**	**11**	**866**	**1**	**163**	**0**	**137**	**5**	**539**	**17**	**8323**	**36**	**1564**	**4**	**243**	**1**	**26**	**28**	**3980**	**22**	**1019**	**60**	**3123**	**48**	**96**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 18th Dec, 2020 Total number of reporting units 356 Number of reporting units data provided for the current week: 343 C**-Completeness

Table 2: Vaccine-Preventable Diseases & AFP

12th– 18th Dec 2020 (51st Week)

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	01	00	00	00	01	01	33	79	- 58.2 %
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	06	167	360	- 53.6 %
Measles	00	00	00	00	00	00	00	00	00	00	07	50	290	- 82.7 %
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	07	20	- 65 %
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	02	31	19	63.1 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	09	39	- 76.9 %
Tuberculosis	27	26	04	08	02	00	11	00	05	83	90	6187	8189	- 24.4 %

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

Influenza Surveillance in Sentinel Hospitals - ILI & SARI							
Month	Human				Animal		
	No Total	No Positive	Infl A	Infl B	Pooled samples	Serum Samples	Positives
December							

Source: Medical Research Institute & Veterinary Research Institute

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