WEEKLY EPIDEMIOLOGICAL REPORT

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Viral Hepatitis (Part I)

This is the first in a series of two articles on Hepatitis

Background

Hepatitis is the inflammation of the liver which is resulting from various causes, both infectious (ex: viral, bacterial, fungal and parasitic organisms) and non infectious. Viral hepatitis is usually caused by five distinct hepatitis viruses which have been identified as A, B, C, D and E. Hepatitis D (HDV), also known as hepatitis delta virus is considered to be a sub-viral satellite because it can propagate only in the presence of the hepatitis B virus (HBV). In addition, other viruses that can also cause liver inflammation include Herpes simplex, Cytomegalovirus, Epstein-Barr virus and Yellow fever.

Different hepatitis viruses have different epidemiological profiles and also vary in terms of their impact and duration. They can result in acute disease and hepatitis B and C viruses can lead to chronic infection as well. Patients who are chronically infected may go on to develop cirrhosis and hepatocellular carcinoma (HCC). Furthermore, chronic hepatitis carriers remain infectious and may transmit the disease for many years.

Transmission

The transmission route depends on the type of virus and routes that contribute greatly to the spread of hepatitis are exposure to infected blood via unsafe injection practices including the use of unsterile needles and syringes, blood transfusion or transmission from mother to child during pregnancy and delivery for hepatitis B, C and D viruses and consumption of contaminated food and drinking water, for hepatitis A and E viruses.

Symptoms

The clinical presentation of infectious hepatitis varies with the individual, as well as with the specific causative virus. Some patients may be entirely asymptomatic or only mildly symptomatic at presentation. Others may present with rapid onset of fulminant hepatic failure (FHF). The classic presentation of infectious hepatitis involves 4 phases.

Viral replication phase – Patients are asymptomatic during this phase; laboratory studies demonstrate serologic and enzyme markers of hepatitis

Prodromal phase – Patients experience anorexia, nausea, vomiting, alterations in taste, arthralgias, malaise, fatigue, urticaria and pruritus, and some develop an aversion to cigarette smoke

Icteric phase – Patients may note dark urine, followed by pale-colored stools; in addition to the predominant gastrointestinal (GI) symptoms and malaise, patients become icteric and may develop right upper quadrant pain with hepatomegaly

Convalescent phase – Symptoms and icterus resolve, and liver enzymes return to normal

Due to its largely asymptomatic nature, viral hepatitis is a silent epidemic; most people are unaware of their infection.

Global Epidemiological Perspective of Viral Hepatitis

Viral hepatitis is a global health problem from which no country is spared. Many of those who are chronically infected with viral hepatitis are unaware of their infection as it can take 20 to 30 years before they develop symptoms. As a result, even though a person has no symptoms and may appear healthy, the virus can still be detected in the blood and damage to the liver may still occur.

Viral hepatitis is among the top 10 infectious disease killers and the leading cause of liver cancer and cirrhosis. Both chronic hepatitis B and chronic hepatitis C cause approximately

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80% of the world's liver cancer and have contributed to the increases in rates of liver cancer in recent decades.

According to the Global Burden of Disease estimates, 240 million people are thought to be chronically infected with hepatitis B and 184 million people have antibodies to hepatitis C. It was reported that hepatitis B and hepatitis C together caused 1.4 million deaths in 2010, including deaths from acute infection, liver cancer and cirrhosis.

Global response by WHO

Hepatitis B infection is a major public health problem globally with serious consequences and high disease burden. Therefore, preventing it becomes a global health challenge. The type of hepatitis, the most common transmission pathways and the most effective strategies for diagnosis and treatment all varied across and within countries and due to these reasons, prevention and control strategies for viral hepatitis needed to be tailored to specific conditions at the national and sub-national levels.

In 2010, the World Health Assembly (WHA) adopted resolution (WHA 63.18) in recognition of viral hepatitis as a global public health problem. The resolution emphasized the need for governments and populations to take action to prevent, diagnose and treat viral hepatitis and called upon the World Health Organization (WHO) to develop and implement a comprehensive global strategy to support these efforts. WHO has crafted guidance for the World Health Assembly's 194 Member States within a health systems approach, as described in Prevention and control of viral hepatitis infection: framework for global action. The WHO strategy addresses the following axes:

- Awareness-raising, Partnerships and Resource Mobilization
- Evidence-based Policy and Data for Action
- Prevention of Transmission
- Screening, Care and Treatment

The 2010 resolution adopted by the World Health Assembly furthermore designated 28 July as World Hepatitis Day, envisioning this as an opportunity for Member States to promote awareness about viral hepatitis. The first official World Hepatitis Day was in 2011. WHO encourages governments, international organizations and civil society groups around the world to observe World Hepatitis Day with activities that call for attention to the disease burden imposed by viral hepatitis, and to the prevention and control measures that need to be implemented. A survey was carried out in mid-2012 as the periodic evaluation of implementation of the WHO strategy required an initial baseline survey of how all Member States are responding to viral hepatitis.

Burden of Viral Hepatitis in region

Hepatitis A: 400,000 cases with 800 deaths annually

Hepatitis B: 1,380,000 cases with 300,000 deaths annually (Includes cirrhosis and liver cancer)

Hepatitis C: 500,000 cases with 120,000 deaths annually (Includes cirrhosis and liver cancer)

Hepatitis E: 12 million cases with 42,000 deaths and 1,800 stillbirths annually

Acute Hepatitis of unknown aetiology: 200,000 cases with 5,000 deaths annually

More than 14 million cases of viral hepatitis, with more than 420,000 deaths occur annually in the WHO region. In addition to the loss of more than 0.4 million lives and untold suffering for millions of people, viral hepatitis causes tremendous economic loss to the patients and their families, owing to long hospitalization and management of complications, particularly in chronic patients.

Issues that needed to be addressed in The South - East Asian region

A review of available data reveals that infection with various hepatitis viruses is common in the South - East Asian region. Among enterically transmitted viruses, sero prevalence rates for hepatitis A virus are high in most countries in the region, but with a recent decline. The consequent increase in average age at first exposure has led to an increase in the number of clinical cases of hepatitis A, including severe forms of disease. Infection with hepatitis E virus is highly endemic in several countries and causes frequent water-borne outbreaks and nearly half of all cases of acute viral hepatitis in many countries.

Among blood-borne hepatitis viruses, hepatitis B virus infection rates vary between low (<2%), Intermediate (2-8%) and high (>8%) among various countries in the region. Hepatitis C virus infection rates in the region vary from 1% to 3%. Infection with either of these viruses can be persistent which lead to development of cirrhosis and liver cancer; and account for a large number of deaths.

Major problems associated with viral hepatitis in the region

One of the major problems associated with viral hepatitis in the region includes, low level of awareness among health administrators, policy makers, medical professionals and general population about hepatitis viruses such as their routes of transmission, risk factors and impact on human health. Inadequate disease surveillance system is another problem with a high likelihood of underreporting of both acute and chronic infections. This causes insufficient understanding of the magnitude and seriousness of the public health problems associated with viral hepatitis.

Screening of blood and blood products for agents causing viral hepatitis is inadequate in some areas of the region. This problem is most likely to be due to limited knowledge, availability and limited access to preventive services for viral hepatitis. Rapid urbanization, overpopulated cities and lack of access to clean water and sanitation are considered as major problems in most countries of the region as a cause for hepatitis A and E infections. Inadequate financial and manpower resource allocation and spending on programmes for surveillance, prevention and control of viral hepatitis is another problem among most countries in the region. This is due to insufficient understanding of the extent and seriousness of viral hepatitis as a public health problem and this further worsens the problem.

Compiled by Dr. H. A. Shanika Rasanjalee of the Epidemiology Unit

Table 4: Selected notifiable diseases reported by Medical Officers of Health 18th – 24th Janu 2014 (04th Week)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishmani-asis		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	200	1091	0	11	1	2	1	9	1	124	2	12	0	0	0	2	0	0	5	25	4	8	0	3	**77**	**23**
Gampaha	81	439	0	12	0	1	1	6	0	2	1	6	0	1	7	9	0	2	4	12	4	13	0	1	**53**	**47**
Kalutara	49	215	0	9	0	0	1	4	0	3	1	21	0	0	0	2	0	0	8	16	1	5	0	0	**77**	**23**
Kandy	13	73	6	11	0	0	0	0	0	0	3	4	2	7	2	5	0	0	4	14	1	4	1	1	**91**	**9**
Matale	5	26	3	9	0	0	1	1	0	0	1	8	1	1	0	6	0	0	0	3	1	2	0	0	**62**	**38**
NuwaraEliya	3	22	6	13	0	0	1	3	6	6	0	0	1	3	1	4	0	0	0	8	1	2	0	0	**69**	**31**
Galle	17	103	1	9	0	2	0	0	1	2	2	23	2	9	0	0	0	0	4	21	3	7	0	0	**70**	**30**
Hambantota	5	34	1	11	1	3	0	3	0	0	5	14	2	8	0	3	0	0	3	14	0	10	9	23	**75**	**25**
Matara	12	43	2	8	1	1	0	15	0	3	3	8	1	8	0	4	0	0	4	15	2	11	1	6	**100**	**0**
Jaffna	31	121	17	41	0	1	8	29	6	11	0	2	32	106	0	1	0	0	7	13	1	3	0	0	**92**	**8**
Kilinochchi	0	9	3	5	0	0	3	5	0	0	0	0	2	9	0	0	0	0	1	1	3	3	0	4	**100**	**0**
Mannar	0	2	0	2	0	3	0	10	0	0	0	2	3	6	0	0	0	0	0	0	0	0	0	1	**100**	**0**
Vavuniya	0	5	2	10	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	2	0	0	**50**	**50**
Mullaitivu	1	10	0	6	0	0	1	3	0	0	0	1	1	1	0	0	0	0	1	2	0	2	0	2	**60**	**40**
Batticaloa	10	30	3	28	0	0	1	5	0	1	0	1	0	0	1	1	0	0	1	3	0	0	0	0	**86**	**14**
Ampara	9	16	1	4	0	0	0	0	3	4	1	1	0	0	0	0	0	1	1	2	0	0	0	0	**86**	**14**
Trincomalee	13	43	1	6	0	1	0	0	0	0	0	2	0	0	0	0	0	0	1	6	0	0	0	0	**92**	**8**
Kurunegala	28	113	4	10	0	2	2	3	0	1	4	10	2	11	0	3	0	0	11	31	1	6	9	17	**93**	**7**
Puttalam	19	71	0	7	0	0	1	1	0	4	0	7	2	3	0	0	0	0	3	7	0	0	0	1	**69**	**31**
Anuradhapura	15	46	0	13	0	0	0	0	0	1	3	9	1	8	0	0	0	0	9	21	4	6	13	30	**84**	**16**
Polonnaruwa	4	54	0	10	1	1	0	0	0	0	1	7	0	0	0	1	0	0	2	15	0	1	1	15	**43**	**57**
Badulla	10	45	2	3	0	1	0	1	0	0	3	4	1	3	3	3	0	0	8	12	2	4	0	0	**88**	**12**
Monaragala	2	18	1	8	0	0	0	0	25	27	0	11	0	5	4	8	0	0	2	8	1	3	0	1	**73**	**27**
Ratnapura	15	66	2	16	0	0	0	3	0	2	7	37	4	12	6	33	0	0	5	18	1	2	0	0	**67**	**33**
Kegalle	17	72	4	9	0	2	1	6	0	0	1	16	0	5	3	10	0	0	12	35	4	7	0	1	**100**	**0**
Kalmune	3	11	1	18	0	0	2	2	0	0	1	1	0	0	0	0	0	0	2	13	0	1	0	0	**69**	**31**
SRILANKA	**562**	**2778**	**60**	**289**	**4**	**20**	**24**	**109**	**42**	**192**	**39**	**207**	**57**	**206**	**27**	**95**	**0**	**3**	**98**	**318**	**34**	**102**	**34**	**106**	**79**	**21**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 24th January , 2014 Total number of reporting units 337 Number of reporting units data provided for the current week: 268 C**-Completeness

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

Table 1: Vaccine-Preventable Diseases & AFP

18th – 24th Janu 2014 (04th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2014	Number of cases during same week in 2013	Total number of cases to date in 2014	Total number of cases to date in 2013	Difference between the number of cases to date in 2014 & 2013
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	01	00	00	00	00	00	00	00	01	04	04	07	-42.9%
Diphtheria	00	00	00	00	00	00	00	00	00	00	-	00	-	%
Mumps	02	00	03	00	02	01	01	00	03	12	18	79	117	-32.5%
Measles	22	02	21	03	00	04	05	04	13	74	05	362	18	+1911.1%
Rubella	00	00	00	00	00	00	00	00	00	00	-	00	-	%
CRS**	00	00	00	00	00	00	00	00	00	00	-	00	-	%
Tetanus	00	00	00	01	00	00	00	00	00	01	00	01	02	-50.0%
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	-	00	-	%
Japanese Encephalitis	01	01	00	00	01	00	00	00	00	03	-	08	-	%
Whooping Cough	02	00	00	00	00	00	00	00	00	02	01	03	06	-50.0%
Tuberculosis	84	28	25	12	18	26	22	9	37	261	114	946	606	56.1%

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

AFP and all clinically confirmed Vaccine Preventable Diseases except Tuberculosis and Mumps should be investigated by the MOH

Dengue Prevention and Control Health Messages

Look for plants such as bamboo, bohemia, rampe and banana in your surroundings and maintain them

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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

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