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## World hepatitis day: Hepatitis can't wait (28 July 2021)

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### Abstract

The date of 28 July was chosen because it is the birthday of Nobel-prize winning scientist Dr Baruch Blumberg, who discovered hepatitis B virus (HBV) and developed a diagnostic test and vaccine for the virus. Viral hepatitis is a cause for major health care burden in India and is recently equated as a threat comparable to the “big three” communicable diseases – HIV/AIDS, Malaria, and Tuberculosis. Hepatitis A virus and Hepatitis E virus are predominantly enterically transmitted pathogens and are responsible to cause both sporadic infections and epidemics of acute viral hepatitis. Hepatitis B virus and Hepatitis C virus are predominantly spread via parenteral route and are notorious to cause chronic hepatitis which can lead to complications including cirrhosis of liver and hepatocellular carcinoma. The Government of India launched a new National Viral Hepatitis Control Program (NVHCP) on World Hepatitis Day -28 July 2018. It is mainly focused on prevention and control of viral hepatitis, with a view to provide free of charge screening, diagnosis, treatment & counselling services to all, and specially to people belonging to high-risk groups to achieve SDG (sustainable development goal) 3.3 which aims ending viral hepatitis by 2030 as envisaged in National Health Policy 2017. It is very important that you take care of preventive measures if participate in risky behaviors. Take preventive steps, too, if you work in places like a nursing homes, dormitories, daycare centers, or restaurants where there you have extended contact with other people and a risk of coming into contact with the disease. Viral infections of the liver that are classified as hepatitis include hepatitis A, B, C, D, and E. A different virus is responsible for each type of virally transmitted hepatitis. Hepatitis A is always an acute, short-term disease, while hepatitis B, C, and D are most likely to become ongoing and chronic. Chronic hepatitis can lead to complications such as cirrhosis (scarring of the liver) & liver failure. Early diagnosis and treatment of chronic hepatitis may prevent these complications.

**Keywords:** world hepatitis day, hepatitis can't wait, 28 July 2021

### Introduction

Global targets aim to reduce new hepatitis B and C infections by 90 per cent through 2030. World Hepatitis Day is commemorated each year on 28 July to enhance awareness of viral hepatitis, an inflammation of the liver that causes a range of health problems, including liver cancer. As per WHO, in India, about 4 crore people are chronically infected with hepatitis B and 60 lakh to 1.2 crore people are chronically infected with hepatitis C. According to the Indian Journal of Medical Research, in India about 2,50,000 people die of viral hepatitis or its sequelae every year. HEV is the most common cause of acute sporadic hepatitis in India and has been associated with several large-scale epidemics in the past. India belongs to the intermediate endemicity zone for HBV carriers.

This year's theme is “Hepatitis can't wait”, conveying the urgency of efforts needed to eliminate hepatitis as a public health threat by 2030. With a person dying every 30 seconds from hepatitis related illness – even in the current COVID-19 crisis – we can't wait to act on viral hepatitis.

There are five main strains of the hepatitis virus – A, B, C, D and E. Together, hepatitis A, B and C are the most common cause of deaths, with 1.3 million lives lost each year. Amid the COVID-19 pandemic, viral hepatitis continues to claim thousands of lives every day. It's also an opportunity for us to increase awareness and encourage a real political change to jointly facilitate prevention, diagnosis and treatment.

Hepatitis A is a vaccine-preventable liver infection caused by the hepatitis A virus (HAV). HAV is found in the stool and blood of people who are infected.

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Hepatitis A is very contagious. It is spread when someone unknowingly ingests the virus — even in microscopic amounts — through close personal contact with an infected person or through eating contaminated food or drink. Symptoms of hepatitis A can last up to 2 months and include fatigue, nausea, stomach pain, and jaundice. Most people with hepatitis A do not have long-lasting illness. The best way to prevent hepatitis A is to get vaccinated. Hepatitis B- is a vaccine-preventable liver infection caused by the hepatitis B virus (HBV). Hepatitis B is spread when blood, semen, or other body fluids from a person infected with the virus enters the body of someone who is not infected. This can happen through sexual contact; sharing needles, syringes, or other drug-injection equipment; or from mother to baby at birth. Not all people newly infected with HBV have symptoms, but for those that do, symptoms can include fatigue, poor appetite, stomach pain, nausea, and jaundice. For many people, hepatitis B is a short-term illness. For others, it can become a long-term, chronic infection that can lead to serious, even life-threatening health issues like cirrhosis or liver cancer. Risk for chronic infection is related to age at infection: about 90% of infants with hepatitis B go on to develop chronic infection, whereas only 2%–6% of people who get hepatitis B as adults become chronically infected. The best way to prevent hepatitis B is to get vaccinated.

#### **Perinatal Transmission**

Hepatitis B virus (HBV) infection in a pregnant woman poses a serious risk to her infant at birth. Perinatal HBV transmission can be prevented by identifying HBV-infected (i.e., hepatitis B surface antigen [HBsAg]-positive) pregnant women and providing hepatitis B immune globulin and hepatitis B vaccine to their infants within 12 hours of birth. Preventing perinatal HBV transmission is an integral part of the national strategy to eliminate hepatitis B. National guidelines call for the following:

- Universal screening of pregnant women for HBsAg during each pregnancy
- Screening all HBsAg-positive pregnant women for HBV DNA to guide the use of maternal antiviral therapy during pregnancy. AASLD suggests maternal antiviral therapy when HBV DNA is >200,000 IU/mL
- Case management of HBsAg-positive mothers and their infants
- Provision of immunoprophylaxis for infants born to infected mothers, including hepatitis B vaccine and hepatitis B immune globulin within 12 hours of birth
- Routine vaccination of all infants with the hepatitis B vaccine series, with the first dose administered within 24 hours of birth

Hepatitis C is a liver infection caused by the hepatitis C virus (HCV). Hepatitis C is spread through contact with blood from an infected person. Today, most people become infected with the hepatitis C virus by sharing needles or other equipment used to prepare and inject drugs. For some people, hepatitis C is a short-term illness, but for more than half of people who become infected with the hepatitis C virus, it becomes a long-term, chronic infection. Chronic

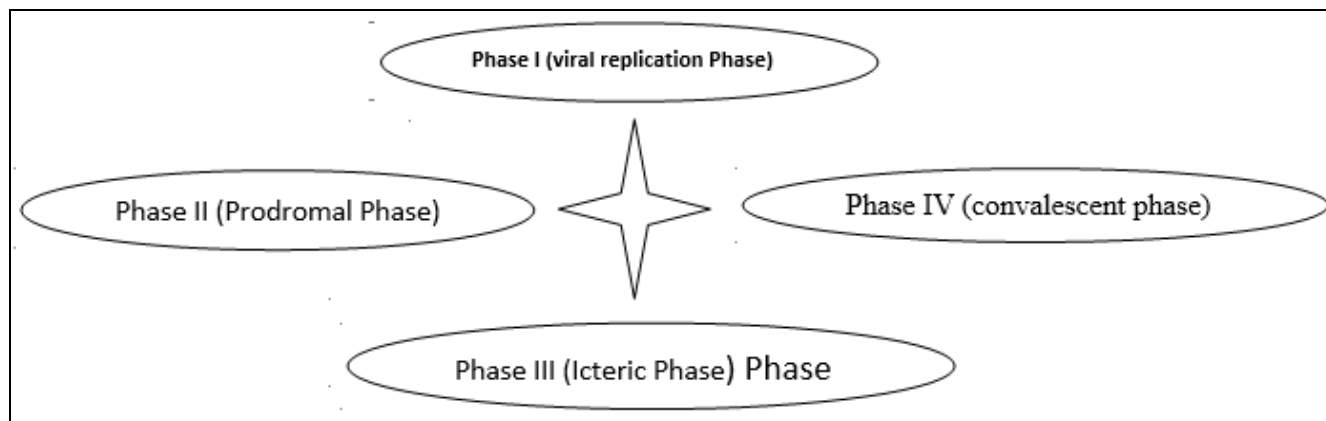
hepatitis C can result in serious, even life-threatening health problems like cirrhosis and liver cancer. People with chronic hepatitis C can often have no symptoms and don't feel sick. When symptoms appear, they often are a sign of advanced liver disease. There is no vaccine for hepatitis C. The best way to prevent hepatitis C is by avoiding behaviors that can spread the disease, especially injecting drugs. Getting tested for hepatitis C is important, because treatments can cure most people with hepatitis C in 8 to 12 weeks.

CDC now recommends one-time hepatitis C testing of all adults (18 years and older) and all pregnant women during every pregnancy. CDC continues to recommend people with risk factors, including people who inject drugs, be tested regularly.

Hepatitis D, also known as “delta hepatitis,” is a liver infection caused by the hepatitis D virus (HDV). Hepatitis D only occurs in people who are also infected with the hepatitis B virus. Hepatitis D is spread when blood or other body fluids from a person infected with the virus enters the body of someone who is not infected. Hepatitis D can be an acute, short-term infection or become a long-term, chronic infection. Hepatitis D can cause severe symptoms and serious illness that can lead to life-long liver damage and even death. People can become infected with both hepatitis B and hepatitis D viruses at the same time (known as “coinfection”) or get hepatitis D after first being infected with the hepatitis B virus (known as “superinfection”). There is no vaccine to prevent hepatitis D. However, prevention of hepatitis B with hepatitis B vaccine also protects against future hepatitis D infection.

Hepatitis E is a liver infection caused by the hepatitis E virus (HEV). HEV is found in the stool of an infected person. It is spread when someone unknowingly ingests the virus — even in microscopic amounts. In developing countries, people most often get hepatitis E from drinking water contaminated by feces from people who are infected with the virus. In the United States and other developed countries where hepatitis E is not common, people have gotten sick with hepatitis E after eating raw or undercooked pork, venison, wild boar meat, or shellfish. In the past, most cases in developed countries involved people who have recently traveled to countries where hepatitis E is common. Symptoms of hepatitis E can include fatigue, poor appetite, stomach pain, nausea, and jaundice. However, many people with hepatitis E, especially young children, have no symptoms. Except for the rare occurrence of chronic hepatitis E in people with compromised immune systems, most people recover fully from the disease without any complications.

According to the World Health Organization (WHO) Hepatitis B and C cause 1.1 million deaths and 3 million new infections every year, respectively. But diagnosis and treatment remain low. Only 10 per cent people with chronic hepatitis B infection are diagnosed and 22 per cent receive treatment. For hepatitis C infection, 21 per cent are diagnosed and 62 per cent receive treatment. Viral hepatitis affects the poor and displaced people disproportionately, the WHO report published on May 20, 2021 said. “Injecting drug use is a major contributor to the number of people newly infected with hepatitis C globally.”



The classic presentation of infectious hepatitis involves four phases, as follows

**Phase I (viral replication phase):** Patients are asymptomatic during this phase. Laboratory studies demonstrate serological and enzyme markers of hepatitis.

**Phase II (prodromal phase):** Patients experience anorexia, nausea, vomiting, alterations in taste, arthralgia, malaise, fatigue, urticarial, and pruritus, and some develop an aversion to cigarette smoke. When seen by a health care provider during this phase, patients are often diagnosed as having gastroenteritis or a viral syndrome.

**Phase III (icteric phase):** Patients note dark urine, followed by pale-colored stools, in addition to the predominant gastrointestinal symptoms and malaise. Patients become icteric and may develop right upper quadrant pain with hepatomegaly.

**Phase IV (convalescent phase):** Symptoms and icterus resolve and liver enzymes return to normal.

#### Hepatitis is diagnosed by

**History and Physical Examination:** History to determine any risk factors. During Physical examination pain may show pain or tenderness. Eyes or skin become yellow.

**Liver Function Test:** Abnormal result of these tests may be the first indication that there is a problem, high liver enzyme levels may indicate that liver is stressed, damaged or not functioning properly.

**Other Blood tests:** If the Liver function tests are abnormal, Doctor will likely to order blood tests to check for antibodies that are common in condition like autoimmune hepatitis.

**Ultrasound:** it can reveal:-

- -Fluid in abdomen
- -Liver damage or Enlargement
- -Liver tumors
- Any abnormalities of Gallbladder

**Liver Biopsy:** This test helps to determine how infection of inflammation has affected the liver. A pathologist will examine the tissue with a microscope to look for signs of damage or disease.

**HBV is transmitted primarily through percutaneous routes, including**

- i). Transfusion of contaminated blood or blood products
- ii). Use of unsterile needles for percutaneous injections
- iii). Unprotected sexual contact
- iv). Perinatal transmission from HBV-infected mothers to their newborns.

**There are many ways to reduce the chances of getting hepatitis**

- Get the vaccines for hepatitis A and hepatitis B.
- Use a condom during sex.
- Don't share needles to take drugs.
- Practice good personal hygiene such as thorough hand-washing with soap and water.
- Don't use an infected person's personal items.
- Take precautions when getting any tattoos or body piercings.
- Take precaution when traveling to areas of the world with poor sanitation. (Make sure to get your vaccines.)
- Drink bottled water when traveling.

#### Post-exposure prophylaxis for HBV

If a person has been exposed to HBV, e.g. through a needle stick injury from a person infected with HBV, a combination of passive (single dose of HBIG) and active immunoprophylaxis (complete three-dose vaccination) should be used HBIG and first dose of the vaccine should be administered at separate sites. This schedule has a protective efficacy rate of 90- 95%, if instituted soon after exposure. HBIG is administered intramuscularly in a dose of 0.5 mL for newborns and 0.06 mL/Kg in children and adults.

WHO is calling on all countries to work together to eliminate viral hepatitis as a public health threat by 2030

**Prevent:** Infection among newborns. All newborns should be vaccinated against hepatitis B at birth, followed by at least 2 additional doses.

**Stop Transmission from Mother to Child:** All pregnant women should be routinely tested for hepatitis B, HIV and syphilis and receive treatment if needed.

**Leave No One Behind:** Everyone should have access to hepatitis prevention, testing and treatment services, including people who inject drugs, people in prisons, migrants, and other highly-affected populations.

**Expand:** Access to testing and treatment. Timely testing and treatment of viral hepatitis can prevent liver cancer and other severe liver diseases.

**Maintain:** Essential hepatitis services during COVID-19. Prevention and care services for hepatitis - such as infant immunization, harm reduction services and continuous treatment of chronic hepatitis B - are essential even during the pandemic.

#### **Lifestyle measures and precautions to prevent liver damage from viral hepatitis**

1. Ensure hygienic drinking water. It is desirable to install water purifiers with UV and or RO methods in addition to mechanical filtration using candle type filters. While travelling bottled mineral water from standard brands and reliable retailer to be used.
2. Avoid roadside food vending especially fruit juices, milkshakes.
3. Barber shops, beauty salons – sharing of razor blades, metal scrapper used to remove blackheads and white heads from facial skin can act as source of infection if not disposable or if not properly sterilised.
4. Sexual transmission is common in Hepatitis B and less so in HCV. Safe sexual practices to be observed.
5. Intravenous Drug use (IVDU)- is a growing epidemic in Kerala campuses. Sharing of needle happen especially since the user won't be in his full senses. Warn your kids on the risk.
6. Hepatitis A and B are vaccine preventable.
7. Early detection of silent long standing persistence by Screening of HBV and HCV. Effective treatment is available for both these viruses.

#### **Summary**

Viral hepatitis is a significant global health problem. Hepatitis B virus (HBV) and hepatitis C virus (HCV) infect more than 300 million people. HBV and HCV are complicated by chronic, persistent infection, characterized in a proportion of patients by progressive hepatic injury leading to complications of end-stage liver disease, including hepatocellular carcinoma (HCC). Hepatocellular carcinoma is the fifth most prevalent human malignancy, and the majority of cases can be directly attributed to liver injury secondary to chronic HBV and/or HCV infection. Although both hepatitis A and E are significant health problems, they are typically characterized by a self-limiting course and are not complicated by significant clinical sequelae in the majority of cases. There are five recognized viruses responsible for viral hepatitis, which share the common property of replicating in the main liver cells, hepatocytes: hepatitis A virus (HAV); hepatitis B virus (HBV); hepatitis C virus (HCV); hepatitis D or delta virus (HDV), which is a defective viroid using the hepatitis B surface antigen (HBsAg); and hepatitis E virus (HEV). All these viruses can cause chronic hepatitis, except HAV. HEV generally does not cause chronic hepatitis, except in immune-suppressed patients. The WHO has released its Global hepatitis program to help countries develop National Action Plans.

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