Epidemiology of viral Hepatitis B and C.

ASSISTANT LECTURER: ALAA W. IZZAT

- Hepatitis is a viral infection in the liver that causes the liver inflammation. Many different forms of the hepatitis virus (A, B,C, D,E) which vary in severity. Viral hepatitis is a major public health concern, infecting millions of people annually; some infections subsequently lead to hepatocellular carcinoma (HCC), liver cirrhosis and fatalities among a significant proportion of patients.

History

- In 1967, Dr. Blumberg discovered the Australian antigen, which led to the discovery of hepatitis B; in 1969, Blumberg assisted in the development of the blood test used to detect hepatitis B as well as the vaccine. - Hepatitis C was discovered in 1989 - Hepatitis D was discovered in 1977 - Hepatitis E was discovered between 1971-1976

Prevalence

- HBV and HCV are significant public health problems in Iraq.
- According to WHO, approximately 1.6% of the Iraqi population is affected by HBV, while HCV is less common but still a major concern.
- Regional Variation:
- Prevalence rates of HBV and HCV vary across different regions in Iraq, with rural areas often showing higher rates due to less access to healthcare services.

- Globally, an estimated 50 million people have chronic hepatitis C virus infection, with about 1.0 million new infections occurring per year.
- WHO estimated that in 2022, approximately 242 000 people died from hepatitis C, mostly from cirrhosis and hepatocellular carcinoma (primary liver cancer).

- Risk Groups:
- Healthcare workers, individuals requiring frequent blood transfusions, people who inject drugs, and prisoners.
- Vertical transmission (mother-to-child) remains a concern for HBV.

Hepatitis B

- Acute hepatitis B can lead to a lifelong infection known as chronic hepatitis B. Left untreated, chronic hepatitis B can cause serious health problems, including liver damage, cirrhosis, liver cancer, and even death.

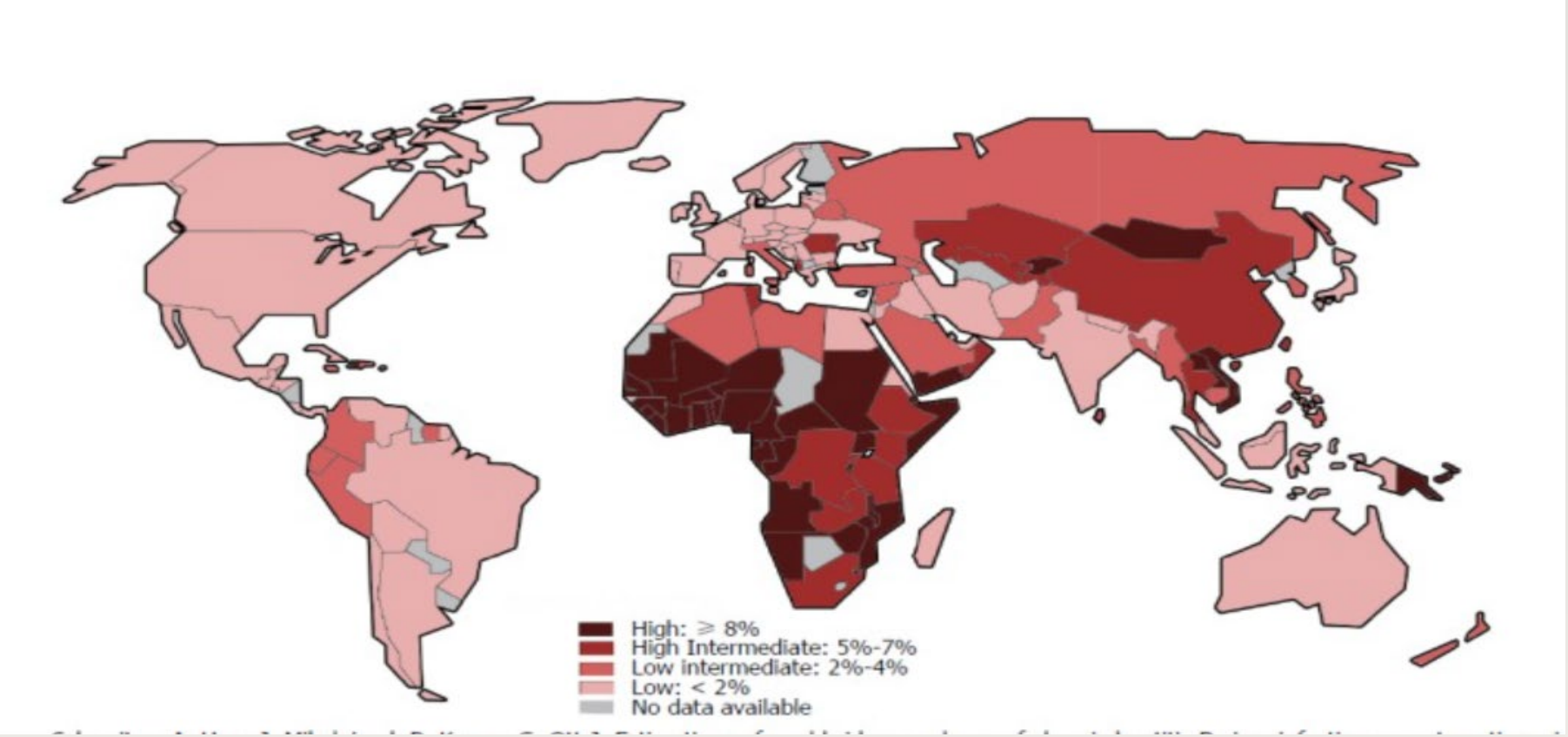
Symptoms of hepatitis B include:

- Dark urine or clay-colored stools
- Feeling tired
- Fever
- Joint pain
- Loss of appetite
- Nausea, stomach pain, throwing up
- Yellow skin or eyes (jaundice)

transmission

- Birth from a mother infected with HBV.
- Sex with a person infected with HBV.
- Sharing equipment that has been contaminated with blood from a person infected with HBV, such as needles, syringes, and even medical equipment, such as glucose monitors.
- Sharing personal items, such as toothbrushes or razors, though less common.
- Direct contact with the blood or open sores of a person who has hepatitis B.
- Poor infection control in health care facilities

HEPATITIS B PREVALENCE



Hepatitis C

- Hepatitis C is an inflammation of the liver caused by the hepatitis C virus.
- The virus can cause both acute and chronic hepatitis, ranging in severity from a mild illness to a serious, lifelong illness, including liver cirrhosis and cancer.

Transmission

- The hepatitis C virus is a bloodborne virus. It is most commonly transmitted through:

- the re-use or inadequate sterilization of medical equipment, especially syringes and needles in healthcare settings;
- the transfusion of unscreened blood and blood products; and
- injecting drug use through the sharing of injection equipment.

symptoms

- Most people are asymptomatic in the early stages.
- When symptoms do occur: jaundice, fatigue, nausea, and abdominal pain.

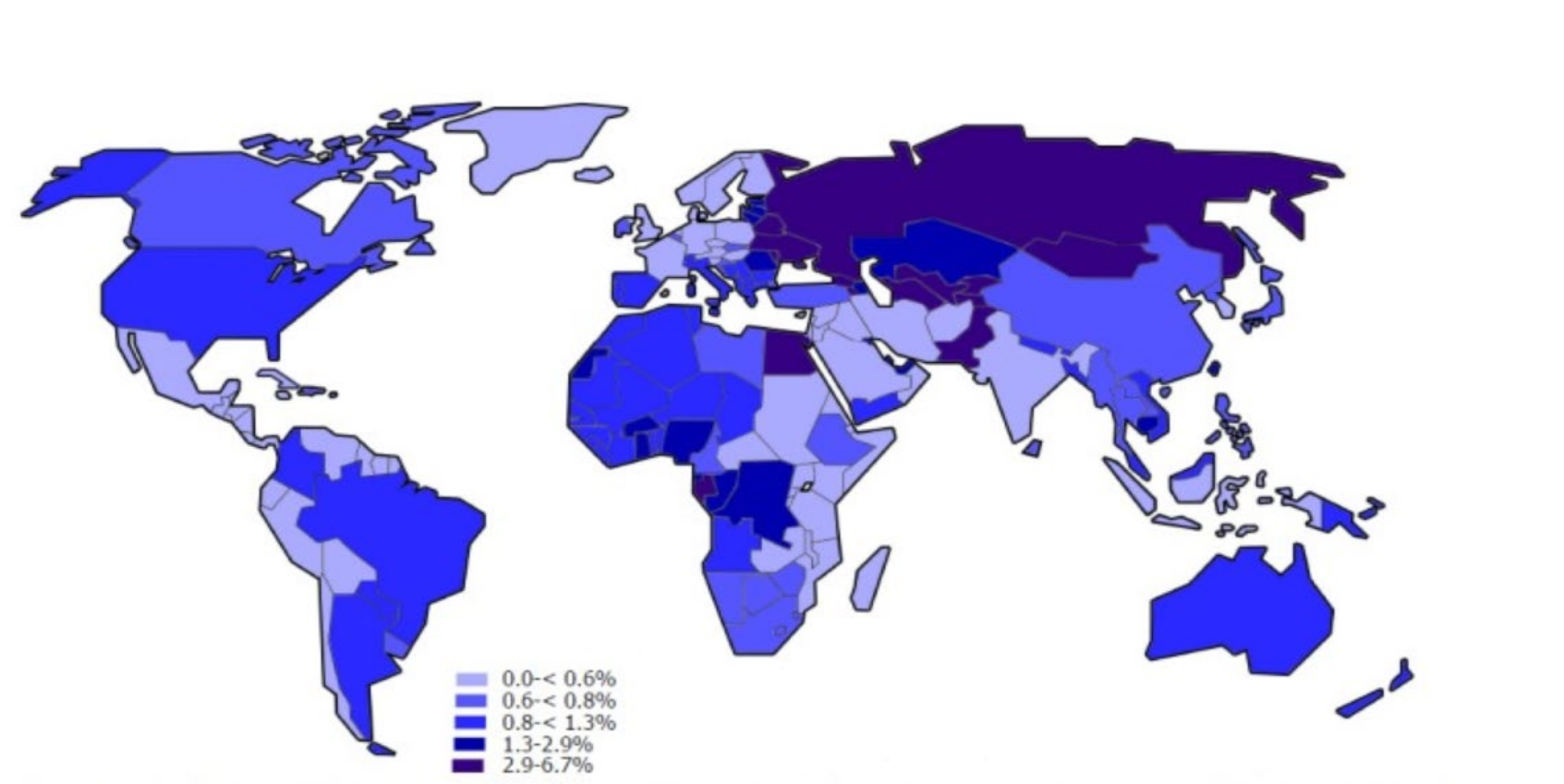
- Complications:
- Chronic infection can cause cirrhosis, liver failure, and liver cancer.
- It is one of the leading causes of liver transplantation.

prevention

- Ways to prevent hepatitis B and C include:
- safe and appropriate use of healthcare injections
- safe handling and disposal of needles and medical waste

- testing of donated blood for the hepatitis C virus and other viruses
- training of health personnel

Hepatitis C PREVALENCE



Diagnosis and Treatment

Diagnosis:

- Blood tests for hepatitis antigens (HBsAg for Hepatitis B and Anti-HCV antibodies for Hepatitis C).
- Liver function tests to assess liver damage.
- PCR testing for viral load.

Treatment Options:

- Hepatitis B: No cure, but antiviral medications (e.g., tenofovir, entecavir) can manage the infection.
- Hepatitis C: Can be cured with direct-acting antivirals (DAAs) such as sofosbuvir and daclatasvir.

Risk Factors in Iraq

- Healthcare System Challenges:
- Inadequate sterilization practices in some health facilities.
- Blood transfusions without proper screening in the past.
-
- Cultural Practices:
- Traditional practices, such as the use of non-sterile equipment in circumcision, tattooing, or other invasive procedures, can increase risk.

Public Health Response in Iraq

- Government Efforts:
- The Iraqi Ministry of Health has launched various programs to combat hepatitis, including vaccination drives for Hepatitis B.
- Screening campaigns in hospitals, prisons, and for high-risk groups.

- Hepatitis B Vaccination
- Routine vaccination of newborns for Hepatitis B has been part of the Expanded Programme on Immunization (EPI) since 1992.
- Efforts are underway to improve vaccination coverage in remote areas.
- WHO Support:
- WHO and other international organizations are collaborating with Iraq to strengthen surveillance, screening, and treatment services.

Recommendations and Solutions

Strengthening Healthcare Systems:

Improve infrastructure to ensure sterilization of medical equipment and safe blood transfusion services.

Expanding Access to Treatment:

Subsidize antiviral medications for Hepatitis B and direct-acting antivirals (DAAs) for Hepatitis C to make them more affordable.

Public Health Campaigns:

Increase awareness campaigns about the transmission and prevention of Hepatitis B and C.

Promote vaccination against Hepatitis B, especially in high-risk populations.


THANK YOU