TRAINING MODULES ON HEPATITIS B AND C SCREENING, DIAGNOSIS AND TREATMENT

World Health Organization

Training Modules on Hepatitis B and C Screening, Diagnosis and Treatment
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Training Modules on Hepatitis B and C Screening, Diagnosis and Treatment

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Foreword

Viral hepatitis is a major public health threat, with serious consequences such as cirrhosis and liver cancer. Together, the South-east Asia and Western Pacific regions account for two-thirds of the world's deaths attributable to hepatitis B and C. Cirrhosis and liver cancer is within the top ten causes of death in both regions, with countries having some of the highest incidence of new cases of liver cancer globally.

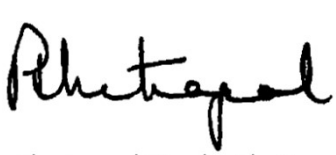
It is without doubt, action must be taken to change this increasing trajectory of advanced liver disease and liver cancer. Earlier testing and treatment can prevent progression of disease and reduce the risk of developing liver cancer. Hepatitis B is manageable with highly effective medicines. Hepatitis C is curable with oral direct acting antiviral medicines which cure more than 95% of people who complete the 2-3 months therapy.

Many countries are developing or accelerating their national responses for comprehensive prevention, treatment and care for viral hepatitis, as part of the call to action towards elimination of viral hepatitis as a public health threat by 2030. At the core of this action, is the delivery of good quality hepatitis care as part of existing health services, which is safe, affordable, accessible and equitable. Healthcare providers must have the training and capacity to deliver this.

The Training Modules on screening, diagnosis and treatment of hepatitis B and C aims to assist this objective; and is based on WHO guidelines. Specifically, the modules help provide the essential knowledge for practice to those at the frontline of public health action on hepatitis, namely physicians, nurses, pharmacists, community health workers and staff providing hepatitis care.

Guidelines for delivering the best practices in hepatitis care evolve and change with time, based on new evidence. This training module has to keep pace with such changes, and for this reason, is being published electronically as a series of individual chapters. This will allow for individual chapters to be reviewed and updated separately in accordance to new evidence and best practice. The modules should be used in conjunction with international and national guidelines. Users are encouraged to supplement the content with existing evidence-based effective practices at their local level and to bring such practices forward for broader consideration and possible incorporation into standard practice at a national level. While these guidelines reflect normal expectations, there will be circumstances that may require professional judgement of the local healthcare provider.

We hope these training modules will be a tool to assist work in countries and healthcare providers.



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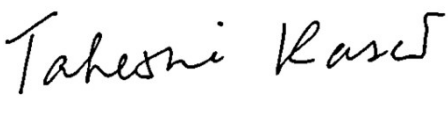

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Introduction

Viral hepatitis is the seventh leading cause of death worldwide. Annual deaths from hepatitis (1.34 million) exceed the number of AIDS-related deaths (1.0 million) and approach the mortality associated with tuberculosis (1.67 million).

Viral hepatitis is caused by different virus types. The most serious are hepatitis B and C viruses, which together cause around 90% of hepatitis deaths worldwide. An estimated 257 million people globally are infected with hepatitis B virus (HBV), and roughly 900 000 per year die of HBV. It is estimated that 71 million people around the world are infected with hepatitis C virus (HCV) and that 400 000 people die of HCV-related causes each year.

The WHO South-East Asia Region (SEAR) is home to an estimated 39 million people with chronic HBV and an estimated 10 million people with HCV. An estimated 410 000 people in the Region die annually due to viral hepatitis, with chronic complications associated with HBV and HCV accounting for 78 % of the total.

The WHO Western Pacific Region (WPR) shoulders a substantial burden with an estimated 115 million people living with hepatitis B and 14 million living hepatitis C. The Region accounts for almost 40% of all global hepatitis related deaths. Liver cancer is the top 6th cause of death in the region, mostly due to chronic hepatitis B and C. Six out of the 10 countries with highest incidence of new liver cancer cases are in WPR.

The increasing trend in hepatitis-related deaths is alarming and action can be taken. Cirrhosis and liver cancer due to hepatitis is preventable as treatment prevents disease progression and hepatitis C infection is curable. The Global Health Sector Strategy (GHSS) for Viral Hepatitis 2016-2021 outlines the vision of elimination of viral hepatitis as a public threat by 2030, as part of Sustainable Development Goals for health.

Many countries are developing their national response for comprehensive prevention, treatment and care for hepatitis, as part of Health for All. Delivery of services for screening, diagnosis and treatment of hepatitis B and C as part of existing health services underlies universal health coverage. Capacity to deliver good quality services by all cadres of health care providers for hepatitis care is important.

These training modules have been developed by WHO South-East Asia and Western Pacific Regional Offices as part of bi-regional collaboration, and were developed following global WHO guidelines for hepatitis which can be adapted to country-specific needs. The modules are available publicly for the use capacity building of health care providers.

We would like to thank the WHO collaborating center for viral hepatitis at Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India and the WHO collaborating center for chronic hepatitis and liver cancer, Kanazawa University, Kanazawa, Japan for their technical assistance in the development of these modules. The bi-regional pilot workshops were supported by UNITAID funding through the Coalition PLUS HIV/HCV Drug Affordability Project with TREAT Asia.

Sample: pre-and post-workshop questionnaire, to be adapted as appropriate

Training Workshop on Hepatitis B and Hepatitis C screening, diagnosis and treatment
Instruction: Please circle at the correct answer(s).

Your initial: _____

1. Which of the following statement is NOT correct?
   A. There are five main hepatitis viruses which infect human
   B. HBV and HCV can cause liver cirrhosis and hepatocellular carcinoma
   C. The main routes of transmission of HBV are perinatal and bloodborne
   D. More than 90% of patients with chronic HBV infection can be cured by drug treatment.

2. Which of the following statements is NOT correct?
   A. HCV is transmitted mainly through exposure to contaminated blood products
   B. Persons with acute HCV infection are often asymptomatic.
   C. HCV frequently affects organs other than the liver, such as joints and the kidneys.
   D. HIV/HCV-coinfected patients have faster progression to cirrhosis.

3. Which of the following statements is NOT correct?
   A. A positive HCV antibody test does not confirm the presence of chronic HCV infection
   B. All patients who test positive for HCV antibody should have HCV RNA testing to confirm chronic infection.
   C. The definition of chronic HCV infection is the presence of HCV RNA in the blood over six months after the estimated time of infection.
   D. We can assess the degree of liver fibrosis by testing ALT/AST, albumin, INR and bilirubin.

4. We know the value of AST and Platelet of a patient. By which test can we assess liver fibrosis?
   A. FIB-4
   B. APRI
   C. FibroTest
   D. Fibroscan

5. Which of the following is NOT correct describing acute HBV infection?
   A. It is characterized by the presence of anti-HBs during the acute phase
   B. HBsAg appears firstly after acquisition of HBV infection
   C. IgM anti-HBc appears soon after the appearance of HBsAg
   D. The clinical symptoms, aminotransferases elevation and HBsAg usually disappear within 6 months

6. Which is NOT correct interpreting HBV serological markers?
   A. HBsAg +, Anti-HBs -, Anti-HBc (IgM) +, Anti-HBc (Total) + ; Recent infection
   B. HBsAg +, Anti-HBs-, Anti-HBc (IgM) -, Anti-HBc (Total) + ; Chronic infection
   C. HBsAg -, Anti-HBs+, Anti-HBc (Total) +; Immunity due to vaccination
   D. HBsAg -, Anti-HBs-, Anti-HBc (Total) -; Never infected

7. A patient has Anti-HCV (+) and HCV RNA (-). What is the interpretation?
   A. Recent infection
   B. Chronic infection
   C. Never infected
   D. Infection resolved or cured

8. Which person does NOT have screening for HBV?
   A. A 24 year-old pregnant woman (the HBsAg seroprevalence is 5% in her country)
   B. A 52 year-old man with general malaise and jaundice
   C. A 7 year-old boy his brother is with HBV infection
   D. A 22 year-old woman. She is a nurse and has not been vaccinated previously

9. Which of the following is NOT correct?
   A. WHO recommends tenofovir or entecavir to all adults, adolescents and children aged 12 years or older in whom antiviral therapy for HBV in indicated
   B. Nucleos(t)ide analogues (NAs) with a low barrier to resistance can lead to drug resistance and are not recommended
   C. For the HBV treatment by NAs, lifelong antiviral therapy is generally required
   D. Discontinuation of NAs may be considered in some persons with clinical evidence of cirrhosis

10. Which is NOT correct regarding monitoring during treatment of HBV infection?
   A. ALT, HBsAg, HBeAg and HBV DNA levels should be monitored annually.
   B. Non-invasive tests to assess for the presence of cirrhosis are recommended to be monitored annually
   C. More frequent monitoring is recommended for persons in whom treatment has been discontinuation
   D. In a patient with cirrhosis and family history of HCC, surveillance for liver cancer should be done every 12 months

11. Which of the following is NOT correct?
   A. All HIV/HBV co-infected individuals should receive antiretroviral therapy regardless of CD4 count
   B. HBV/HCV co-infected individuals should usually receive initial treatment for HCV
   C. PWID are at increased risk of acute and chronic hepatitis B and liver related disease, and therefore require additional care
   D. In persons with HIV/HCV co-infection, treatment for HCV infection need to consider drug-drug interaction with anti-retroviral medications.

12. Based on the 2018 WHO hepatitis C treatment guidance, which one of the following should be considered “highest priority” for hepatitis C treatment?
   A. Coinfection with tuberculosis
   B. Coinfection with HIV
   C. People who inject drugs
   D. Type 2 diabetes mellitus

13. Based on the 2018 WHO hepatitis C treatment guidance, which one of the following is