Addressing Viral Hepatitis in Pakistan: Not All is Gloom and Doom

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The World Health Organization (WHO) and collaborators observe “World Hepatitis Day” on 28th of July every year in order to improve the awareness and intensify preventive and control measures for viral hepatitis. Global Burden of Disease Study 2010 (GBD 2010) identified 1.44 million deaths in 2010 due to the causes related to viral hepatitis including acute hepatitis, liver cancer, and cirrhosis. This accounted for 2.7% of all deaths in that year. According to WHO estimates, more than 500 million people worldwide are living with chronic hepatitis B virus (HBV) and hepatitis C virus (HCV) infections. Fifty-seven percent of the cases of liver cirrhosis and 78% that of hepatocellular carcinoma (HCC) globally have been imputed by HBV or HCV infection.

Pakistan being the world’s sixth most populous country and with a moderate to high infection rates, shows a percentage prevalence of hepatitis B surface antigen (HBsAg) and anti-hepatitis C antibody (anti-HCV) from 2.5% and 4.8% in the general population to 13.0% and 10.3% among high-risk groups respectively. Since Pakistan is a lower middle-income country, it particularly faces high burden of chronic viral hepatitis owing to lack of access to timely, accurate and reliable medical treatment. More than 10 million people in Pakistan are living with HCV infection, reflecting a yet very high prevalence of anti-HCV of 57%, and 48.67% among duals over 18 years of age coming with the infection, inconsistent with previous findings. This could be correlated with the improved sanitary conditions and availability of safe water in developing countries affecting individuals now and later in their life when it is associated with higher mortality and more adverse outcome.

Since viral hepatitis remains a significant world health issue associated with heightened morbidity, productivity losses in the work places and mortality, it demands an expeditious action by the global community and policy makers to address emerging health concerns of the low and middle-income countries affected severely by the escalating healthcare prices. In conjunction, industrialized countries have been experiencing severe economy burden owing to rising healthcare costs. Considering the high global burden of viral hepatitis with regional variations, global and regional health communities should focus more on the prevention of the infection/disease by strengthening the practices that minimize risk factors and interrupt transmission.

Pakistan Field Epidemiology and Laboratory Training Program (FELTP) supported by the Centers for Disease Control and Prevention (CDC), USA reported 712 new cases of viral hepatitis during June 2010 and March 2011 with HCV infection accounted for 53.2% of newly reported cases. This was followed by acute hepatitis A (19.8%), acute hepatitis E (12.2%), and newly reported HBV infection (10.8%). The risk factors identified for hepatitis A virus (HAV) and hepatitis E virus (HEV) infections included unsafe or contaminated food, unboiled water and degrading and poor sanitary conditions. For HBV and HCV infections, multiple therapeutic injections and transfusions, reuse or sharing of syringes, barber related risks, previous surgical procedure, dental risk, tattooing, nose and/or ear piercings, needle-stick injuries in healthcare workers, and unprotected sexual intercourse were identified as risk factor.

HAV and HEV accounted for 159400 deaths globally in 2010, as estimated by GBD 2010. An epidemiological switch in HAV infection has been evidenced, with individuals over 18 years of age coming with the infection, inconsistent with previous findings. This could be correlated with the improved sanitary conditions and availability of safe water in developing countries affecting individuals now and later in their life when it is associated with higher mortality and more adverse outcome.

Since HAV and HEV infections follow a fecal-oral route of transmission, infected food handlers may unwittingly contaminate the foodstuff and heighten viral transmission resulting in epidemics. Emphasis should, therefore, be placed on proper sanitation and provision of safe food and water. Routinely used food preserving and disinfecting processes are unable to control and inactivate hepatitis A and E viruses. Certain sexual practices i.e. male homosexuality may facilitate HAV transmission. Safe and effective vaccines are available for HAV. Food handlers, male homosexuals, people travelling to endemic regions should particularly be vaccinated.

Acute HEV presents with serious fatal outcome in pregnancy. Acute-on-chronic liver failure due to HEV is now a well-known entity. Chronic HEV is now sporadically seen in organ transplant recipients, patients on haemodialysis, HIV patients and those with haematological malignancies. Cases have been reported contracting HEV infection following ingestion of infected food.
meat among immune-compromised patients. Undercooked game meat should, therefore, be avoided by this subset of patients. HEV-related acute-on-chronic hepatitis should be treated with an antiviral agent. Chronic HEV infection, if left untreated, may invariably progress to cirrhosis among patients who are immune-compromised. Prompt recognition and proper treatment of hepatitis E should, therefore, be instituted. All immune-compromised patients including those who are on haemodialysis should undergo screening for HEV for the purpose of prompt recognition of HEV exposure. Approximately 61% of the solid organ transplant recipients develop chronic hepatitis E after HEV exposure. China has recently approved an effective vaccine against HEV infection but it is not yet widely dispensed.

Hepatitis B is transmitted via infectious blood, semen, and other body fluid. The vertical transmission from mother to newborn at the time of birth also serves as a mode of viral spread. Intra-familial transmission of both HBV and HCV among children and adults has also been reported. Hepatitis C particularly spreads through exposure to infectious blood. High-risk groups including thalassemics, patients on haemodialysis, patients undergoing major surgery, dental surgery, IDUs, and healthcare workers remain at a very high risk of acquisition of blood-borne HBV and HCV infections.

Considering the regional differences in the distribution, transmission, diagnosis and treatment of various viral hepatitides, it requires a customized approach to plan prevention and control strategies by individual countries. WHO thus presents its global framework also outlining four axes to aid regions and countries to adopt and adapt accordingly:

1. Raising awareness, promoting partnerships, and mobilizing resources.
2. Evidence-based policy and data for action.

Unnecessary therapeutic injections, transfusions and reuse/sharing of syringes remain the most important factors identified in our setting facilitating HBV and HCV transmission. In Pakistan, an average person receives 8.2 - 13.6 injections per year, of which 94.2% are avoidable and remains non-essential. Injections and transfusions that are unnecessary should be avoided. The donated blood and blood products should be properly and accurately screened for the transfusion-transmissible infections. The practice of sterile needles and equipment should be strengthened and proper and safe disposal of sharps should be stimulated both by the patients and the healthcare workers. Blood donations should preferably be collected from voluntary, unpaid donors as they are at lower risk of possessing infections.

Auto-disable syringes should be promoted by health sectors since they prevent reuse of syringes and appear safer for both the patient and the healthcare professional.

Universal vaccination of newborns and high-risk groups for HBV should be guaranteed since 90% of the infants acquiring HBV at the time of birth and 30% of the children acquiring it in their early childhood will eventually develop chronic HBV infection. Hepatitis B immune globulin (HBIG) should be administered to infants born to HBV-infected mothers. Despite substantial efforts in HBV infant immunization program, coverage with hepatitis B vaccine has not yet achieved the goal of 90% set by Global Immunization Vision and Strategy 2006-2015. Healthcare workers should particularly be vaccinated for HBV which is still not widely practiced in our part of world. HDV super-infection in an HBV-infected patient result in a more severe and aggressive disease course, rapidly progressing to cirrhosis and HCC. Vaccination against HBV protects against HDV infection. There is a need to start vaccination campaign for hepatitis B by advertisement and forming teams just like polio campaign.

General public, particularly barbers and patients attending clinics in Pakistan, still lack sufficient knowledge about hepatitis B and C and risk factors. Public health education and/or educational intervention in this regard should be the first priority of concerned bodies and policy makers. Mass awareness may be done by means of posters, print, electrical and social media. The key messages should alert about the potential of blood containing viruses and other pathogens and how can these be transmitted. Family physicians may also play a key role in spreading awareness. Healthcare professionals should also be educated and efficiently trained to prevent occupation-related transmission of viral infections. Early recognition of viral exposure/infection and timely, reliable medical support and treatment may prevent patients from developing chronic infection and further transmission; and a decrement in future disease burden since, significant number of chronically-infected patients are unaware of their HBV/HCV status and unknowingly transmit infection to others. HIV/AIDS patients should be routinely screened for HAV, HBV, and HCV to modify their treatment efficiently. A model for educating primary health educators and patients in remote areas by teleconference has shown its effectiveness and may be followed in Pakistan.

A multidisciplinary approach is necessary to address all issues related to screening, treatment and counselling. People suffering from hepatitis B and C with time acquire the essential knowledge of different disease related issues. Their experiences may be used to develop effective strategies for prevention and treatment of hepatitis. Here comes the importance of formal patients...
support groups, advocates from patients themselves, who should be fully integrated in all the activities and services. These groups may also include celebrities, religious leaders, and key community persons that would help in lobbying with the government. These groups would work to increase awareness among patients, represent patients' interest, advice peers to fight with the stigma, and taboos associated with the disease and side effects of treatment, and negotiate with the pharmaceutical industry and the government. These groups may seek guidance from the doctors from the national gastrointestinal and liver societies to disperse information but they cannot treat the patients.

In Pakistan, hepatitis control programs have been operating in provinces and not all is gloom and doom. However, there exists a gap in prevention, control and provision of continuous care to patients. The challenges include: regular supply of low-cost and reliable diagnostics; simple and safe treatment regimens; quality-assured screening of blood products; obtaining sufficient local data for policy making and action; raising infant HBV vaccine coverage to 90% of global target; developing strategies for IDUs who are at high risk of contracting hepatitis; promoting safe sexual practices; improving sanitation and provision of safe water; proper follow-up of individuals with viral hepatitis; and implicating poverty reduction strategies by mobilizing resources to promote health. We need an effective national framework for a coordinated response from government, health sector and non-government organizations. Creating patient advocacy groups would be of immense help in this regard.

REFERENCES