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**Hepatitis C eradication: A long way to go**

Waheed Y. Hepatitis C eradication, long way to go

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**Abstract**

Hepatitis C virus (HCV) is a major health problem around globe with high morbidity and mortality. About 185 million people are living with HCV out which 80% are living in low and middle income countries. With the development of new highly effective treatment for HCV it is considered that the elimination of HCV is only one step away. The major problem with new treatment is its high price. The price of Sofosbuvir based treatment for one patient in United States is US$ 85000–110000. While the actual production cost of 12 wk direct-acting antiviral regimen is less than US$ 250. Another major hindrance in HCV eradication is the screening of blood transfusion from laboratories having no quality check. Due to lack of HCV screening, 75% of people in United States with HCV infection are unaware of their infection. The control of massive HCV pandemic requires financial investment, political will and support from medical, pharmaceutical and civil organizations around the globe.

**Key words**: Hepatitis C virus; Treatment; Diagnostics; Screening; Transfusion

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**Core tip:** With the availability of new direct-acting antiviral for hepatitis C virus (HCV), some people think that HCV eradication is only one step away. There are number of issues to address to win the fight against HCV. Although the cost of HCV treatment is reduced for certain countries yet it is a big problem for low and middle income countries to afford treatment for large number of patients. 47% transfusions in low income countries are from laboratories with no quality check. Lack of knowledge and awareness about HCV is observed among healthcare providers, policy makers, general public and at risk populations.

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**TO THE EDITOR**

Hepatitis C virus (HCV) is a major health problem around globe. About 185 million people are living with HCV out of which 80% are living in low-income and middle-income countries (LMICs)[1]. One third of chronically infected HCV patient leads to cirrhosis and hepatocellular carcinoma. It is estimated by WHO that the annual deaths caused by HCV related liver diseases are 350000 to 500000[2]. The Pegylated Interferon and Ribavirin is treatment of choice in several countries. The therapy has limited response with number of side effects. The cost of this therapy is US$ 4000 for one patient[3,4].

With the availability of newly highly effective HCV treatment, it is considered that the HCV elimination in only one step away[5]. We think that the eradication of Hepatitis is not so much easy even with the development of new highly effective therapies. There are lot more issues to address for achieving the global eradication of HCV.

The new generation of direct acting antiviral drugs showed high treatment response with minimal adverse effects. The major problem with new drugs is their affordability. The price of sofosbuvir based treatment, for one HCV patient in United States is US$ 85000–110000[6]. While the actual production cost of 12 wk direct-acting antiviral (DAA) regimen is less than US$ 250[7]. Several European countries are also negotiating the price for new HCV drugs. The French health minister warned that the high price treatment will impose high burden on the social security system. The high treatment response of new DAA is linked with adherence to proper treatment regimen. In clinical trials, Sovaldi showed a discontinuation rate of 2%.

Seventy two percent of world’s poorest people live in middle income countries out of which 90% of patients pay for medications out of pocket. Some of the countries have insurance scheme but these do no always cover the cost for HCV diagnostics and treatment[1]. Middle income countries are attractive market for the pharmaceutical companies. Gilead has licensing agreement with seven Indian companies to manufacture generic HCV medicine for 91 developing countries at reduced price. Egypt and Pakistan has 11 million and 10 million people living with HCV respectively. It will take around $ 5 billion with reduced sofosbuvir price to treat half of patients in either country. The price is not including the expenses used for laboratory monitoring, hospital visits and medications to manage adverse events. There is dire need to make HCV treatment affordable for large number of HCV patients. According to CDC, one premature death is prevented for every three virological cures[8]. We can learn drug affordability from the example of HIV. About ten million people are getting antiretroviral therapy for HIV at a cost of $100 per person annually[9].

The major route of transmission of HCV is blood and blood products[10]. It is reported by WHO that the 47% of blood donations in low income countries are from laboratories with no quality assurance[11]. Large numbers of labs are using rapid tests and 3rd generation EIA for HCV detection. The window period for HCV detection by 3rd generation EIA test is 66 d compared with 4 days for HCV detection by nucleic acid amplification technology (NAT)[12]. CDC recommends the use of highly sensitive EIA or rapid test for HCV screening and use of another assay to confirm the positive results as true positive[13]. Efforts are needed to establish cost effective NAT laboratories for effective HCV diagnosis.

People with HCV infection remain asymptomatic for long period during which infection may be transmitted to other persons. 75% of people in US with HCV infection are unaware of their infection[14]. There is a need to have HCV screening programs for both general and at risk populations including IDUs, people with history of using blood products, unsafe injections, piercing, tattooing, prisoners and homeless people. There is also need to provide proper prevention, diagnosis and treatment facilities to detained population.

In a multinational study to forecast the HCV prevalence by 2030, it is observed that HCV associated morbidity and mortality can be greatly reduced by increasing the number of individuals getting higher efficacy treatment combined with increased diagnosis[15].

Lack of knowledge and awareness about HCV is observed among healthcare providers, policy makers, general public and at risk populations. Forty percent of global HCV infections are due to unsafe injections and improperly sterilized medical equipment[16]. Health care providers need education and training to reduce the risk of disease transmission by mal practices. It is observed in a recent study that only 5.5% HCV positive IDUs of India were aware of their status and only 1.4% of HCV positive IDUs had taken HCV treatment[17]. Massive awareness programs are needed to decrease the future load of HCV from society.

There is insufficient understanding about the seriousness of this public health problem, so inadequate public resources are being allocated to prevention and control of HCV. There is a need to develop global strategy for HCV eradication. More than 10 million people are on their foot due to global polio eradication initiative and the global incidence of polio is reduced by 99%[18]. The control of massive HCV pandemic requires financial investment, political will and support from medical, pharmaceutical and civil organizations around the globe.

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