

The Hepatitis C Virus Treatment Revolution-Can the Developing World Afford it?

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ABSTRACT

Hepatitis C is the leading cause of hepatocellular carcinoma worldwide. Recently, several new, highly effective directly acting antivirals have entered the introduced in the market. But the high cost of these medications prohibits the widespread use in the developing world. We, through our paper would like to suggest steps towards making these medications widely available to the population that needs them the most.

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Key words: Hepatitis C; Directly acting antivirals; Developing world

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LETTER TO THE EDITOR

Hepatitis C is a leading cause of chronic liver disease and hepatocellular carcinoma worldwide. According to the World Health Organization (WHO) about 130-150 million people worldwide are affected with chronic Hepatitis C infection. 350,000 to 500,000 people die worldwide each year from hepatitis C related liver infection. Hepatitis C is a blood borne infection, commonly transmitted through use of unscreened blood products, sharing of needles in injection drug users, unprotected sex and rarely by perinatal transmission.

Hepatitis C virus encodes a highly error prone RNA polymerase, that leads to a great level of sequence heterogeneity of the virus among the infected persons^[1]. Interferon alfa and ribavirin have formed the crux of HCV treatment until recently. But these medications have been associated with undesirable side effects including cytopenias, rash and autoimmunity.

In recent months, several directly acting anti virals have been developed. These have been found to have increasing efficacy in eradicating HCV virus. Several directly acting antivirals (DAA) that are active against hepatitis C virus have been approved or are in the process of approval. Rarely, has mankind seen a definitive, curative therapy for a disease so extensive and devastating to human health as hepatitis C.

In 2013, United States Food and Drug Administration (US-FDA) approved Sofosbuvir, a nucleotide analogue HCV NS5B polymerase inhibitor^[2]. Sofosbuvir treatment regimens are 12 weeks long for genotypes 1, 2 and 4. Treatment duration for genotype 3 is 24 weeks. This is known to have 90% success rate in patients with type 1 & 4 genotype and about 67% success rate in type 2 & 3 genotypes^[3]. It is estimated that this medication will cost \$ 84,000 for a 12 week course and \$ 168,000 for a 24 week course.

Thus, the major challenge in eradicating Hep C in the developing world is the high cost of the directly acting antivirals. The developing world accounts for 80% of the global HCV burden. Urgent steps need to be taken to ensure that the recent success against HCV reaches the world's most needy and at risk population.

We suggest that the following steps should be taken by the international community for the widespread availability and success of anti HCV DAA in the developing world.

(a) Cost- effective screening programs; (b) Recognition of directly acting antivirals (DAAs) as essential medications; (c) Creating international funding streams and giving subsidies to the poor nations; (d) Generic manufacturing of DAA's; (e) Global activism and political will; (f) Increasing public awareness regarding the widespread epidemic of HCV; We believe that making the developing world part of the HCV treatment revolution is imperative towards achieving the goal of global eradication of HCV.

CONFLICT OF INTERESTS

There are no conflicts of interest with regard to the present study.

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