J Antivir Antiretrovir 2016, 8:5(Suppl)
http://dx.doi.org/10.4172/1948-5964.C1.034

Prevalence of hepatitis B and C virus infection among patients attending a tertiary care hospital in central Nepal: A five-year study

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Viral hepatitis, caused by hepatitis B virus (HBV) or hepatitis C virus (HCV), is a systemic disease primarily involving the liver and is a major global health problem that affects hundreds of millions of people worldwide. WHO estimates that viral hepatitis in South-East Asia region has nearly 100 million and 30 million people with chronic HBV and HCV infection, respectively with approximately 500000 deaths each year that are attributable to it and its sequelae, liver disease and primary liver cancer. However, the available data from the region on viral hepatitis are limited and fragmentary and may not provide a complete picture. In view of the advantage of early detection and therapy, this study was designed to assess the prevalence of the markers of HBV and HCV in patients attending a tertiary care hospital in central Nepal over a period of 5 years and compare the yearly trends of the seropositivity rates with a view to provide baseline data for further research, public health policy formulation and awareness campaign. The seropositivity records over 5 years (2008-2012) were reviewed, retrospectively. Standardized test kits were used for detection of HBV, namely, hepatitis B surface antigen (HBsAg) enzyme-linked immunosorbent assay (ELISA) kit (HEPACARD, J. Mitra and Co. Ltd, New Delhi, India) based on HBsAg detection. HCV detection was done using third generation ELISA kit (HCV TRI-DOT, J. Mitra and Co. Ltd) based on detection of antibodies against HCV in the human serum or plasma. In total, 19784 tests were performed for HBV infection where as 7686 for HCV. Female comprised the majority (70.55%) amongst those tested for HBV, while male preponderance was observed (65.24%) amongst those tested for HCV. The overall prevalence rates for HBsAg and HCV were found to be 2.18% (433) and 5.75% (440), respectively. For both HBsAg and HCV, majority of the positive cases were males and belonged to the age group 21-30 years. The annual rates showed decreasing trends for both HBsAg and HCV. This study raises serious concerns regarding HBV and HCV prevalence in our country. Although viral hepatitis showed decreasing trends, the findings show the endemicity of HBV and HCV in our country with the risk of transmission of these viruses albeit unknowingly. These findings warrant high priority efforts for prevention and control and public enlightenment campaigns.

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Suppression of severe mosaic disease in Chayote (Chow-chow) *Sechium edule*. Sacq. Sw

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Chayote (Chow-chow; *Sechium edule*. Sacq. Sw), Family. Cucurbitaceae) fruits are rich in carbohydrates, minerals, vitamins, particularly vitamin A and C. Chayote is cultivated in Kodaikanal, Thandikudi and Sirumalai hills of Dindigul District and Kothagiri of Nilgiris District of Tamil Nadu. The crop is affected by a severe mosaic disease which show symptoms such as characteristic yellow spots, mosaic, puckering, curling and occasional enations on the under surface of the leaf. This disease is caused by *Tomato leaf curl New Delhi virus* (ToLCNDV) which results in more than 90% yield loss. Since the yield loss was found to be heavy, an attempt has been made to manage the disease by using bioagents and antiviral principles (AVPs). In the management trial, uniformly in all the treatments, the seeds were treated with 0.5 % of *Bacillus amyloliquefaciens* (Talc based formulation) for 20 minutes followed by foliar sprays of respective components (Bioagents and AVPs) at 60 DAS and at 90 DAS. Among 10 treatments followed in various combinations, the foliar spray of root extract of *Mirabilis jalapa* (0.25%) recorded maximum yield of 31.25 tons per hectare followed by foliar spray of *Bougainvillea spectabilis* leaf extract (10%) with 30 tons per hectare and foliar spray of *Vitex negundo* leaf extract (10%) with 29.5 tons per hectare as against 24.25 tons per hectare in untreated control (total of seven pickings). Percent yield increase in treated plants over control was 28.8%, 23.7% and 20.6% respectively as against control. The percent disease incidence was also found to be reduced in foliar sprays of *Mirabilis jalapa*, *Bougainvillea spectabilis* and *Vitex negundo* as 3.3%, 6.6% and 8.8% respectively as against 83.3% in untreated control.

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