

Investigation of hepatitis B and C virus in female sex workers from Pretoria region, in 2022

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Background: Hepatitis B (HBV) and C (HCV) viruses are the major causes of viral hepatitis with high morbidity and mortality, despite the availability of a highly effective antiviral treatment. Although the burden of HBV and HCV differs in the general population in South Africa, there is paucity of data of their impact in high-risk groups such as female sex worker (FSW). This study aimed to investigate HBV and HCV infections in FSW's from Pretoria in 2022. In order to provide additional information in this group and contribute to updates of strategies aiming at global elimination.

Methods: This was a descriptive study which used 189 stored sera collected in 2022 from FSW's in Pretoria region. All the 189 FSW's sera were tested for anti-HCV using Elecsys® Anti-HCV II and HB surface antigen (HBsAg) using Elecsys® HBsAg II. HBV and HCV nucleic acids were extracted using Invisorb® Spin Universal kit. HCV was amplified by reverse transcriptase PCR targeting the 5'UTR. HCV positive samples were sequenced using the ABI 3730XL sequencer. HBV DNA viral load targeting surface was done on positive HBsAg samples using CFX96™ Touch Real-Time PCR Detection System. No sequencing was done for positive HBV DNA samples.

Results: HCV results indicated that only 2.1% (4/189) of were positive for anti-HCV and HCV RNA HCV genotype 4 and 1 was detected in 3 and 1 FSW's, respectively. HBsAg positivity was detected in only 1.1% (2/189) and both samples had detectable viral load copies of 52 143 (Log₁₀ 4.717) and 9 638 (Log₁₀ 3.984) respectively. No co-infection of HBV/HCV was found.

Conclusion: This study shows that the majority of FSW's in Pretoria have low exposure to, or active HBV and HCV infection and it does not appear that multiple sex partner is a risk factor for increased detection of HBV and HCV.