

# Mode of Hepatitis C Transmission through Sexual Intercourse: Author Perspective



Hepatitis C is a liver disease, caused by hepatitis C virus (HCV). It represents one of the major health challenges throughout the world.<sup>[1]</sup> Hepatitis C may be acute or chronic; and it ranges from a mild illness to serious disease.<sup>[2]</sup> It represents the leading cause of about 27% of cirrhosis and 25% of hepatocellular carcinoma cases worldwide.<sup>[3]</sup> In addition to malignancy of liver, the cancers include pancreas, rectum, kidney, non-Hodgkin lymphoma (NHL) and lung.<sup>[4]</sup>

As there is no vaccine for hepatitis C, its prevention of spread is essential to combat the disease. This includes primary and secondary preventions. Primary prevention is directed to reduce the exposure to the virus and to keep the non infected populations particularly those at risk of infection away from the disease. On the other hand, secondary or tertiary prevention aims to treat the cases of HCV.<sup>[2]</sup> Therapy is difficult and may be not tolerated by many patients.<sup>[5]</sup> Hence, prevention of HCV infection is an invaluable tool for the control of the disease. This necessitates study of mode of the transmission of HCV. As the blood is a major source of HCV transmission, screening for the virus will render blood units safe.<sup>[6]</sup> The next most common mode of transmission is sexual intercourse, especially when multiple partners are involved.<sup>[7]</sup> On the other hand, HCV does not spread through breast milk, food, water or by casual contact such as hugging, kissing and sharing food or drinks with an infected person.<sup>[2]</sup>

A higher prevalence of HCV infection has been stated among cases of sexually transmitted diseases as well as in prostitutes and their partners.<sup>[8]</sup> Despite the documented sexually transmitted HCV, its risk isn't yet fully understood.<sup>[9]</sup> HCV is a blood-borne virus.<sup>[10]</sup> There no explanation was found in the previous literature about how HCV is transmitted sexually although it isn't passing through the other

body fluids such as saliva and tears. Such explanation may aid to prevent or minimize the transmission of infections.

The vagina is a fibromuscular canal with potential cavity, extending from the vestibule to the cervix; and lined with stratified squamous epithelium but not keratinized.<sup>[11]</sup> This makes it prone to coital injury, particularly if there is an infection or dryness with lack of sexual foreplay. On the other hand, the prepuce of the penis is lined with mucous membrane. It is retracted during sexual intercourse.<sup>[12]</sup> Difficulty of intromission could lead to much traction of the frenulum and its injury. This might affect uncircumcised male with long prepuce more than circumcised one. It is suggested that HCV might be transmitted sexually through exposure to blood. This could occur due to the possibility of injury at the sexual act caused by some factors such as friction, disproportionality of the couple genitalia, vaginal dryness and absence of good pre-sex preparation such as cases of rape. The lacerations of the vaginal mucosa and the penile prepuce could lead to HCV transmission as well as other blood borne viruses such as HIV.

To minimize the sexual transmission of HCV, condoms or even lubricants may be used at the sexual intercourse in case of presence of an infected partner of the couple. This is done coinciding with other measures including health education and mass screening for high risk groups of populations in order to detect and treat the cases before getting complications.

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