LETTER TO THE EDITOR OPEN ACCESS

The Alarming State of Hepatitis B Vaccination Among Dentists: Local, National, and Global Implications

Muhammad Usman Sultan[1], *Ihsan Ullah*[1], *Muhammad Anas*[1]
[1]*Bacha Khan College of Dentistry, Mardan, Pakistan.*

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Dear Editor,

Globally, Hepatitis B Virus (HBV) presents a major public health risk, leading to chronic infections, liver cirrhosis, and cancer. The virus transmits through bodily fluids such as blood, sexual intercourse and contact, mother-to-child transmission during pregnancy and childbirth, and contaminated equipment. According to the World Health Organization (WHO), approximately 254,000,000 (254 million) people will suffer from chronic hepatitis B in 2022, with 1,200,000 (1.2 million) new cases annually. The disease claimed around 1.1 million lives in 2022, mainly due to cirrhosis and primary liver cancer. Fortunately, effective and safe vaccines are available to prevent hepatitis B infection [1]. In dental care settings, microorganisms can be transmitted through various routes, including physical contact with infected fluids or materials, contact with contaminated equipment or surfaces, exposure to airborne pathogens through droplets or aerosols, and inhalation of microorganisms suspended in the air[2]. The development of Hepatitis B (HBV) vaccines has progressed through three generations. The first generation, introduced in 1981, utilized inactivated HBsAg from human carrier plasma. The second generation employed recombinant DNA technology using yeast, resulting in vaccines like Engerix B and Recombivax HB. The third generation, leveraging mammalian cells and pre-S1 and pre-S2 antigens, offers enhanced immunogenicity[3]. Despite the World Health Organization's (WHO) inclusion of the HBV vaccine in its Extended Program on Immunization since 2002, hepatitis B virus (HBV) infection remains a public health concern in Pakistan. Recent studies among young healthy blood donors have revealed a notable HBV seropositive, ranging from 2.41% to 3.31%. This poses an increased risk of exposure to dental students and dentists treating infected patients[2]. In Pakistan a research study concluded that out of 525 dentists, 351 (66.8%) had completed their HBV vaccination, meanwhile 174 (33.14%) had not been vaccinated. Out of 330 dental students, only 198(60%) were vaccinated, and from 195 dentists, only 153(78.4%) were vaccinated. Only 54.8% (288) of individuals had completed the full 3-dose HBV vaccination series[2]. A study conducted on Mardan Medical Complex patients shows that out of a total of 300 patients, 133(44.4%) were observed positive for HBV and HCV infections collectively. After screening, 68(22.7%) were detected positive for HBsAg, while the ratio of HCV-positive patients was found positive in 65 (21.7%) cases[4]. We urge policymakers and healthcare institutions to address the low levels of vaccination against the Hepatitis B Virus (HBV) among dentists. Free vaccination programs should be arranged on an urgent basis for all dental students and professionals. This initiative will not only protect dentists from HBV infection but also prevent transmission to patients. Making HBV vaccination a mandatory requirement for admission to dental programs and providing education[5]. HBV transmission and prevention will increase awareness and vaccine uptake. By taking these steps, we can safeguard the health of both dentists and patients.

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CONFLICT OF INTEREST
The authors declared no conflict of interest.

AUTHORS' CONTRIBUTION
All authors contributed equally

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