

South African healthcare workers are at high risk of contracting hepatitis B

South African healthcare workers were found to be at high risk of contracting hepatitis B, even though a vaccine can provide life-long immunity, according to a review recently published in the *Current Opinion in Immunology* journal.



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"The findings of this review highlight the substantial risk of occupational exposure to blood and bodily fluids among healthcare workers and student healthcare workers in South Africa. This places them at high risk of contracting HBV infection. In fact, the prevalence of chronic hepatitis B has been shown to be high among healthcare workers in South Africa, ranging from 0.8-3.6% among healthcare workers in Gauteng, and 5.1% among those in Mpumalanga. This is rather concerning as these healthcare workers may be at risk of developing serious liver complications. Furthermore, healthcare workers infected with HBV may pose a risk to their susceptible patients," says Dr Edina Amponsah-Dacosta, a postdoctoral research fellow at UCT's Vaccines for Africa Initiative.

Fortunately, vaccination with three doses of the hepatitis B vaccine provides lifelong immunity against hepatitis B. The South African National Department of Health has clear guidelines, recommending hepatitis B vaccination for healthcare workers in training as well as those already in service.

"It is important to note that vaccination of student healthcare workers ensures that they are protected before being exposed during service. This approach is especially necessary in the South African setting given that our previous studies have highlighted the suboptimal coverage of national routine childhood hepatitis B vaccination, leading to a substantial population of susceptible adolescents and young adults, some of whom are now training to be healthcare workers," Amponsah-Dacosta says.

Mandatory vaccination policies

While, free hepatitis B vaccination has been available to healthcare workers as part of the South African Standard Treatment Guidelines and Essential Medicines List for more than 10 years, student healthcare workers are largely expected to access the vaccine and post vaccination testing at their own cost. "Overall, studies show that uptake of the hepatitis B vaccine among student healthcare workers in South Africa is low and immune protection is inadequate to prevent transmission in the healthcare setting," she says.

Where policy is concerned, a previous study conducted in a Western Cape university that mandates hepatitis B vaccination for all health science students found a high vaccination coverage (>90%). Among those who did not complete their hepatitis B vaccine regimen, unaffordability was identified as the major barrier to uptake. Evidently, mandatory vaccination policies which require students to cover the cost of the vaccine and post vaccination testing are less likely to succeed in historically disadvantaged universities and nursing colleges where most students require financial support.

"The global evidence further suggests that mandating versus recommending hepatitis B vaccination does not significantly affect coverage of hepatitis B vaccination among healthcare workers as well as student healthcare workers. Instead, policies mandating relevant regulatory bodies or employers to cover the cost of vaccinating student healthcare workers are more likely to improve uptake within this population. Additional strategies that have been shown to improve uptake for other vaccines recommended for healthcare workers like influenza vaccination, include ensuring easy access to the vaccine, and behaviour change interventions such as education, frequent reminders, and incentivisation," she says.

Based on the findings of the review, the authors propose that South African higher education institutions training student healthcare workers must ensure easy and free access to hepatitis B vaccination and post-vaccination testing for student healthcare workers. There is also a need to improve demand for hepatitis B vaccination among student healthcare workers through education on the risk of HBV infection, the benefits of vaccination, and their ethical responsibility to protect patients.

She said institutions may create smart and ethical mandates when all other strategies to improve vaccine uptake have failed. This could include the introduction of "soft" mandates such as signing of declaration forms for those students who decline vaccination and "hard" mandates making hepatitis B vaccination a pre-requisite for participating in clinical training.

The review was conducted between August 2020 and February 2021 by a group of scientists from the University of Cape Town (UCT), Sefako Makgatho Health Sciences University and Stellenbosch University.

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