

LETTER TO THE EDITOR

Hepatitis B virus infection and its prevention among the general Ghanaian population: Using the public health model of prevention approach

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As a follow-up to the recently published Letter to the Editor in this journal titled 'Hepatitis B infection and its prevention among healthcare workers in Ghana: More action required' (1), I present in this current Letter as a discussion on hepatitis B virus (HBV) infection and its prevention among the general Ghanaian population.

Control of HBV infection is a major aim for the World Health Organization (WHO) with a crucial emphasis on HBV prevention in African countries. Over two decades ago, the World Health Assembly (WHA) passed a resolution calling for public health interventions to prevent and control viral hepatitis. This is principally due to the fact that the diffusion of HBV infection is still wide in several low-income countries, where the prevention, management, and treatment have become a heavy burden for governments and healthcare authorities (2,3). Periodic assessment of country level performance is key in identifying implementation gaps in prevention efforts.

The goal of primary prevention of HBV is to prevent the transmission to uninfected individuals. Prevention through immunization is considered the most cost-effective strategy for eliminating the infection globally (2, 3). A plasma-derived vaccine was produced nearly three decades ago and was replaced with a safer and equally effective recombinant type (4, 5). In 1999, the WHO recommended that all countries incorporate the hepatitis B vaccine into routine national infant immunization programs, and Ghana as a country has complied and integrated its infant immunization with HBV vaccine into its Expanded Programme of Immunization (EPI) in 2002 (5). However, Ghana is yet to implement HBV birth dose vaccination strategy, which has been proven to be an important component of preventing vertical transmission of HBV (6). Every institution that offers maternal and child health services in Ghana is expected to integrate HBV screening into routine antenatal care services, where all pregnant women are screened and their HBV-exposed newborns offered HBV immunoglobulin at birth as a postexposure prophylaxis measure (7). Unfortunately, the

implementation of this prevention strategy is not optimal due to cost and access barriers.

Vaccination of at-risk populations, for example, healthcare workers, is not optimal as vaccination coverage among this population has been estimated to be 53.4% (8). A very insignificant proportion of the adult population has been reached with HBV vaccination campaigns championed by some individuals and non-governmental and nonprofit organizations. This is because HBV vaccination outside the EPI is not covered by the national health insurance scheme, therefore making it unaffordable for the ordinary Ghanaian (9). Population-based programs toward protecting the individuals from new infections are yet to be given full consideration. However, other primary preventive strategies that have been pursued widely in Ghana include screening of blood and blood products, sterilization of medical care items and equipment, and many others (10).

Secondary prevention of HBV infection is aimed at achieving early diagnosis and treatment with the aim of delaying or entirely preventing the occurrence of complications and death (11), hence the WHO's recommendation for all adults in highly endemic regions of the world to be offered hepatitis B surface antigen testing since it is the gateway for access to prevention and treatment of HBV (12). Unfortunately, low testing rates have been reported among the Ghanaian population (9). Screening and early identification and treatment of people infected are key in achieving secondary prevention. Antiretroviral drugs are available for the treatment of chronic HBV. Research evidence shows that the risk of liver cancer and death can be reduced with early enrolment into care and timely initiation of treatment (11). Oral nucleoside or nucleotide analogues (entecavir, tenofovir disoproxil fumarate, and tenofovir alafenamide) are the forms of treatment recommended globally. These agents achieve substantial virological suppression in many patients and, therefore, reduce the incidence of complications of cirrhosis and cancer (11). These agents are available in most developing countries; however, affordability is a hindrance to drug use among most chronic HBV patients (13). In

many sub-Saharan African countries including Ghana, access to screening services, cost of diagnosis, and treatment are major limiting factors to secondary level prevention of HBV. In addition, routine screening programmes for the general population are practically unavailable (13). The cost of performing HBV routine laboratory investigations (HBV profile, HBV viral load, and alpha-fetoprotein) in Ghana is high and, therefore, becomes a major barrier to secondary HBV prevention efforts (14). The National Health Insurance Scheme, which is the main health financing scheme in Ghana, does not have full consideration for HBV diagnosis and treatment; therefore, the individuals in need of voluntary screening, diagnosis, and antiretroviral agents bear the direct costs of these services (14).

The goal of tertiary prevention of HBV infection is to improve the quality of life of affected people and to reduce to the barest minimum the symptoms of the chronic form of the infection and its associated complications (11). Management of patients at this level largely focuses on effective treatment of disease symptoms and limiting disease progression, complications, and disabilities, including the management of lifestyle behaviors that may contribute to the worsening of the chronic form of the infection (12). Unfortunately, care for affected people under the third level of prevention is not adequate. For example, the cost for hospital-based care for individuals suffering from the chronic form of the infection and complications is high in Ghana (14). Additionally, the proportion of patients suffering the major complications of HBV infection who have access to care and treatment is very low (13). This is an important hurdle to country-specific prevention efforts.

Health education and health promotion programmes that are needed to help people cope with chronic HBV and its complications are insufficient in Ghana. Even though few individuals organize public campaigns on HBV, no or just a little formalized education on HBV is done by health workers (14).

Ghana has made progress in implementing some important strategies under the HBV prevention program; however, major gaps still remain under all three levels of prevention. Commitment and support are required from all stakeholders to close these gaps for Ghana to attain the Sustainable Development Goal target of reducing hepatitis B mortality by 65% before 2030.

Conflict of interest and funding

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Ethical approval

Not applicable in this situation.

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