

Current updates and challenges of malaria in its pre-elimination period

Ayalew Jejaw¹

¹Department of Medical Parasitology, School of Biomedical and Laboratory Sciences, College of Medicine and Health Sciences, University of Gondar

Corresponding Author : Ayalew Jejaw Zeleke, email: ayalewjejaw@gmail.com

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Editorial

Malaria is one of the major public health problems and caused by five types of plasmodium species. Plasmodium falciparum and Plasmodium vivax species pose the greatest threat (1). Global malaria infection and death rates have continued virtually unchanged since 2015. The world is currently off track to achieve the 90% reduction in the malaria case incidence and mortality rate goal by 2030 (2). According to the latest World malaria report, there were 247 million cases of malaria in 2021 compared to 245 million cases in 2020. The estimated number of malaria deaths stood at 619 000 in 2021 compared to 625 000 in 2020. Over the 2 peak years of the pandemic (2020–2021), COVID-related distractions directed to about 13 million more malaria cases and 63 000 more malaria deaths. The WHO African Region continues to carry an extremely high share of the global malaria burden. In 2021 the Region accounted for about 95% of all malaria cases and 96% of deaths. Children under 5 years of age covered about 80% of all malaria deaths in the Region (3).

In the last a few years, struggles to eliminate malaria has gained a remarkable momentum, and several countries have attained this goal — but it has confronted numerous dares. The latest reports of artemisinins resistance in Plasmodium falciparum followed by the signal of chloroquine resistance in Plasmodium vivax, and reduced susceptibility of synthetic pyrethroids used in long lasting insecticide nets are some issues hampering the elimination hard works (4). Moreover, invasion of Asian vector Anopheles stephensi in various countries including Africa have added to the hitches (5, 6). In addition, deletion of histidine rich protein 2 and 3 (Pfhrp2/3) genes in P. falciparum in many countries has reported and this threatens the point-of-care diagnosis of this disease (7-9). It is needed to revisit the strategies adopted by a few countries which have made malaria elimination possible (10).

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Currently, promising new vaccine is under development. The world's first malaria vaccine, RTS, S/AS01, has been deployed in malaria endemic areas. This vaccine acts against *Plasmodium falciparum*, the deadliest malaria parasite globally and the most prevalent in Africa. Implementation of the malaria vaccine through pilot introductions in Ghana, Kenya and Malawi has resulted in substantial reduction in deadly severe malaria and a drop in child deaths. The first malaria vaccine is safe and effective, and, if implemented broadly, the vaccine could save tens of thousands of lives each year (11). As of March 2023 WHO report, more than 1.3 million children had received at least 1 dose of the vaccine. Twenty-nine countries in Africa have expressed interest in adopting the malaria vaccine as part of their national malaria control strategies (12).

Establishment of regular surveillance system on antimalarial drugs, diagnostic performances, vector control measures in malaria endemic areas, and development and evaluation of new malaria prevention and controlling tools are highly important for national health policy makers and respective stakeholders for the successful malaria elimination efforts.

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