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Trends In Malaria Vaccine Development

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Structured Abstract

Background: Malaria caused by *Plasmodium* is still a serious infectious condition that affects public health. Five protozoa species, *Plasmodium falciparum*, *Plasmodium vivax*, *Plasmodium malariae*, *Plasmodium ovale*, and *Plasmodium knowlesi* are responsible for the disease. *P. falciparum*, which is most common in sub-Saharan Africa, is the deadliest. The World Health Organization has set the global goal of a 90% reduction in malaria incidence and fatalities by 2030. Over the years, persistent efforts have significantly reduced the burden of malaria, but it still poses a threat to millions of children's lives, particularly in the tropics. As a result, reasonable efforts have been made to find a successful malaria vaccine. The need for the development of an effective malaria vaccine has become urgent. With a focus on the RTS,S/AS01 and R21 vaccines, this review discusses the progress and prospects of malaria vaccine candidates and identifies potential malaria vaccine development, considering recent changes and the heterogeneity of malaria epidemiology as well as the challenges of RTS,S AS01 and R21 vaccines. The most anticipated vaccines to date, RTS, S, underwent a phase III clinical trial that was recently completed, but the results revealed that the vaccine had limited efficacy and had a regional impact. The R21 vaccine progresses to phase 3 licensure trials due to its high efficacy during phase 1/2a clinical trials.

Methods: -

Results: -

Conclusion: In conclusion, to hasten the development of a new generation of a malaria vaccine, new adjuvant systems should be developed to boost the immune system response.

Keywords: *Plasmodium* spp., Malaria, RTS,S/AS01 vaccine, R21 vaccine

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