Letter to the Editors

RTS,S/AS01 Malaria Vaccine - The Next Step for a Developing Country

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Key words

RTS S/AS01 • Malaria • Plasmodium • Developing countries • Endemic

Malaria is a curable, yet deadly parasitic infection caused by Plasmodium species. It is responsible for one child's death every two minutes globally and is accredited to be the second most prevalent disease in Pakistan [1].
Due to this high morbidity and mortality rate, medical researchers worldwide have been working towards the development of a malarial vaccine since the 1960s [2].
Till now, none of these vaccines were able to complete the clinical development phase. However, recently, RTS,S/AS01, a pre-erythrocytic vaccine (PEV), developed by GSK laboratories, became the first malaria vaccine against P. falciparum to do so [3].

The pilot program was launched by WHO in Ghana, Kenya, and Malawi in January 2016, which showed promising results, with about a 30% reduction in severe malarial cases [3].
The vaccine has been declared safe, feasible, efficient, and cost-effective by WHO and widespread use of this vaccine, among the children of Subsaharan Africa, was approved by WHO on 6th October 2021 [3].
It is administered as an intramuscular injection in 4 doses in children from the age of 5 months. An additional dose may be added before the malarial season [3].

In Pakistan, almost 60% of locals live in malaria endemic areas [1].
As a result, the death toll stands to 50,000 deaths each year attributed to either the infection directly or its complications [1].
It's imperative to take into account that the most vulnerable of these are infants, children, and expectant women from the at-risk population in Pakistan [1].
In a developing country such as Pakistan it is rather difficult to repress malarial outbreaks because of chaotic urbanization and habitation, sinking sanitary conditions, environmental hazards e.g., monsoon rains and floods [1].
In addition to this, it is fair to highlight Pakistan as a fertile state, therefore the majority of the population co-exists with this fatal infection.
The efforts to roll back malaria have been in vain due to inadequate care given at both federal and provincial levels [1].
There is a heterogeneous distribution of the major Plasmodium species in Pakistan, mainly P. vivax (75% malaria cases) and P. falciparum (25% cases) [1].
A six-fold increase in P. falciparum cases in the last decade was reported by the National Malaria Control program [4].
The affected population also fails to seek relevant treatment in time or tends to self-medicate, resulting in complications.
It may be contributed by the lack of knowledge regarding the disease severity and the rising antimalarial drug resistance in Pakistan [5].
This can be a significant burden on the economy.

A number of initiatives are required to reduce the intolerable burden of malaria.
Investment and development of public-private partnerships, cost-effectiveness, efficient delivery methods, and approval by liable regulatory authorities are some of the approaches to ensure vaccine efficacy.
Due to the crippling statistics discussed above, Pakistan becomes a strong candidate for the WHO RTS malaria vaccine administration.
A successful vaccine trial along with well-planned training of staff, accessibility of vaccines to the general masses especially those who are highly prone, adequate monitoring, and continuous encouragement of individuals to participate can contribute immensely in medical research data needed to restrain the disease.
Compliance with all the necessary precautionary measures coupled with a groundbreaking vaccination trial could give hope to developing countries, who would be able to include this in their EPI schedule and turn this long-deferred dream of malarial elimination, into a reality.

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