Control the spread of malaria

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Yrear 2

objective:

- Definition of malaria.
- Outline mode of transmission of malaria.
- Identify methods of prevention and control of malaria.
- Discuss efficacy of malaria vaccines.

Malaria is a serious and sometimes fatal disease caused by a parasite that commonly infects a certain type of mosquito which feeds on humans.

Transmission

Usually, people get malaria by being bitten by an infective female ***Anopheles* mosquito**. Only *Anopheles* mosquitoes can transmit malaria and they must have been infected through a previous blood meal taken from an infected person.

The mosquito bite introduces the **parasites** from the mosquito's **saliva** into a person's **blood.**

What is the methods of prevention of malaria?

Prevention:

- WHO-recommended malaria prevention tools and strategies – has had a major impact in reducing the global burden of this disease.

Vector control:

The 2 core interventions are insecticide-treated nets (ITNs) and indoor residual spraying (IRS).

Preventive chemotherapies:

Preventive chemotherapy is the use of medicines, either alone or in combination, to prevent malaria infections and their consequences.

Vaccine:

The vaccine has been shown to significantly reduce malaria, and deadly severe malaria, among young children.

efficacy of malaria vaccines:

RTS,S/AS01 (trade name Mosquirix) is a **recombinant protein-based malaria vaccine**. In October 2021, the vaccine was endorsed by the World Health Organization (WHO) for "broad use" in children, making it the first malaria vaccine candidate, and first vaccine to address parasitic infection, to receive this recommendation.

WHO recommends that in the context of comprehensive malaria control the RTS,S/AS01 malaria vaccine be used for the prevention of *P. falciparum* malaria in children living in regions with moderate to high transmission as defined by WHO.

•RTS,S/AS01 is the **first malaria vaccine to be tested in Phase 3 clinical trials** and the first to be assessed in routine immunization programs in malaria-endemic areas.

RTS,S/AS01 is delivered as intramuscular injection.

Four doses are currently indicated for **children from 5-18 months** .

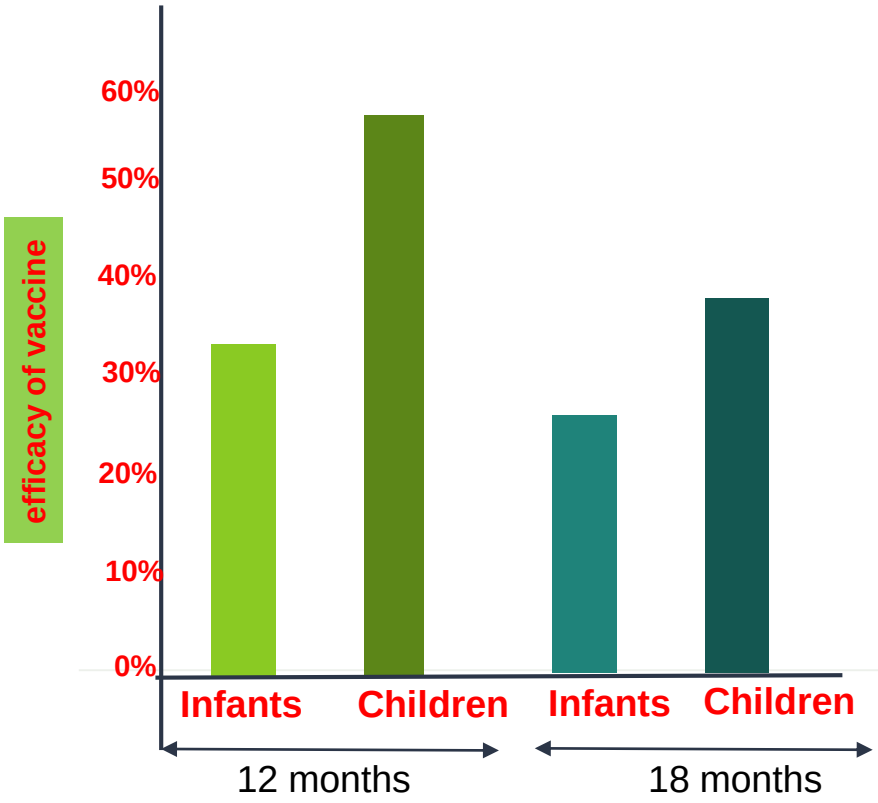
The child is given three injections with one month between each injection and the fourth dose should be administered at 15–18 months.

Efficacy of RTS,S/AS01 vaccine (Mosquirix™)

Methods:

The RTS,S/AS01 vaccine **advanced to Phase 3 testing** from 2009–2014 in 7 sub-Saharan African countries, and enrolled 15,459 participants, including :

1- 8922 children **5–17 months** of age.
2- 6537 infants **6–12 weeks** of age.



The result:

- Efficacy of vaccine against malaria in the 12 months after dose 3 :

was 31.3% for **infants**.
55.8% in the **5–17 month** age group.

- For the additional efficacy endpoint assessed at the end of study extension of follow-up over median 48 months :

25.9% in infants **6–12 weeks** of age.
36.3% efficacy in **children 5–17 months** of age.

Concept:

Over the same follow-up period, the 3 dose regimen showed reduce efficacy against clinical malaria in both age groups, but waned **more slowly in the 4-dose group.**

conclusion

- Malaria is **a serious and sometimes fatal disease but there is** Many effective antimalarial drugs are available for **prevention** and also there is many effective **measures to control malaria.**
- And know the **vaccine** resulted in a significant **reduction** in life-threatening severe malaria and in pediatric hospitalization with malaria infection.

References:

Thank you