

27 – 04 – 2022

News: World Malaria Day

- World Malaria Day is observed on 25th April every year to spread awareness of the global effort to control and ultimately eradicate malaria.
- World Malaria Day was first held in 2008. It was developed from Africa Malaria Day, which was an event that had been observed since 2001 by African governments.
- Theme for the year 2022 is "Harness innovation to reduce the malaria disease burden and save lives".

Malaria

- Malaria is a mosquito-borne infectious disease that affects human and other animals.
- It is caused by a plasmodium.
- Symptoms of malaria include fever, tiredness, vomiting and headaches.
- These begin 10-15 days after being bitten by infected Mosquito.
- It is spread through Anopheles mosquito.
- The disease is widespread in the tropical and subtropical regions that exist in a broad band around the equator.

- This includes much of **sub-Saharan Africa, Asia and Latin America**.
- **25th of April** has been declared as **World Malaria Day** by the World Health Organisation (WHO).
- Recently, the **World Health Organisation (WHO)** endorsed the world's first **Malaria Vaccine Mosquirix** in the hope that it will spur stalled efforts to curb the spread of the parasitic disease.

Mosquirix

- **RTS, S/AS01**, trade name Mosquirix, is an **injectable vaccine** targeting **P. falciparum**, the most prevalent malaria strain in Africa.
- It is the **first and only vaccine to show partial protection in young children**.
- It was developed by **British drugmaker GlaxoSmithKline in 1987**.
- The active substance in Mosquirix is **made up of proteins found on the surface of the Plasmodium falciparum parasites (PFP)**.
- **RTS,S** aims to trigger the immune system to defend against the first stages of malaria when the PFP enters the human host's bloodstream through a mosquito bite and infects liver cells.
- It also helps **protect against infection of the liver with the Hepatitis B virus**.

Potency

- The **vaccine's effectiveness** at preventing severe cases of malaria in children is **only around 30%**, but it is the only approved vaccine.
- The **European Union's drugs regulator approved it in 2015**, saying its **benefits outweighed the risks**.
- Its **side effects are rare**, but sometimes include a fever that may result in temporary convulsions.

Challenges

- Inconvenient: A **child must receive four injections before age 2**, sometimes at **intervals that do not match the routine vaccine schedules for most other diseases**.
- Partly Effective: **Testing in more than 10,000 African children from 2009 to 2014 showed that, even after four doses, the vaccine prevented only about 40% of detectable malaria infections**.
- Not Long Lasting: It is **unclear how long even those relatively low levels of protection last**; previous trials followed vaccinated children for four years. Experts also worry that parents whose children are vaccinated will become less vigilant about using mosquito nets, and less likely to seek medical care when their children develop fevers.

- Develop Resistance: The vaccine reduced the occurrence of severe malaria by about 30%, and the occurrence of severe anemia - a complication that often kills children - by about 60%. It **did not protect well against parasite strains that were poor genetic matches, raising a concern that, over time, parasites could evolve resistance to the vaccine** as they have to drugs.

Burden of Malaria

Global

- In 2019, there were an **estimated 229 million cases of malaria worldwide**, and the **estimated number of malaria deaths that year stood at 4, 09,000**.
- **Children aged less than 5 years are the most vulnerable group** affected by malaria in 2019, they accounted for 67% (2, 74,000) of all malaria deaths worldwide.

India

- In 2019, India had an estimated **5.6 million cases of malaria** compared to about 20 million cases in 2020, according to WHO.

Countries that Eliminated Malaria

Over the last two decades, 11 countries have been certified by the WHO Director General as malaria free:

- United Arab Emirates (2007), Morocco (2010), Turkmenistan (2010), Armenia (2011), Sri Lanka (2016), Kyrgyzstan (2016), Paraguay (2018), Uzbekistan (2018), Algeria (2019), Argentina (2019) and El Salvador (2021).
- Countries that have **achieved at least 3 consecutive years of zero indigenous cases of malaria are eligible to apply for the WHO certification of malaria elimination.**

Way Forward

- The next steps for the WHO recommended malaria vaccine will **include funding decisions from the global health community for broader rollout in endemic countries**, and country decision-making on whether to adopt the vaccine as part of national malaria control strategies.

Global Fund for AIDS, TB and Malaria (GFATM)

- Global Fund with a total investment of \$2 billion was created in 2002 to pool the world's resources and invest them strategically in programs to end Tuberculosis, AIDS and Malaria.
- It is a partnership of governments, civil society, technical agencies, private sector and people affected by the diseases.

Global Technical Strategy for Malaria 2016- 2030

- The Global Technical Strategy for Malaria 2016–2030 was adopted by the World Health Assembly in May 2015.
- It provides a comprehensive framework to guide countries in their efforts to accelerate progress towards malaria elimination.
- The strategy sets the target of reducing global malaria incidence and mortality rates by at least 90% by 2030.
- It emphasizes the need for universal coverage of core malaria interventions for all populations at risk and highlights the importance of using high-quality surveillance data for decision-making.

- It also identifies areas where innovative solutions will be essential for attaining the goals, and summarizes the estimated global costs of implementation.

National Framework for Malaria Elimination (NFME)

- The **National Framework for Malaria Elimination (NFME) 2016-2030** outlines **India's strategy for elimination of the disease** by 2030.
- The framework has been developed with a **vision to eliminate malaria from the country and contribute to improved health and quality of life and alleviation of poverty**.
- The NFME document clearly defines goals, objectives, strategies, targets and timelines and will serve as a roadmap for advocating and planning malaria elimination in the country in a phased manner.
- Necessary guidance is expressed for rolling out the strategies and related interventions in each State/UT as per respective epidemiological situation.

In line with the WHO Global Technical Strategy for Malaria 2016–2030 (GTS) and the Asia Pacific Leaders Malaria Alliance Malaria Elimination Roadmap, the goals of the National Framework for Malaria Elimination in India 2016–2030 is:

- Eliminate malaria (zero indigenous cases) throughout the entire country by 2030; and Maintain malaria-free status in areas where malaria transmission has been interrupted and prevent re-introduction of malaria.

Malaria Elimination Research Alliance-India (MERA-India)

- Indian Council of Medical Research (ICMR) has established "Malaria Elimination Research Alliance-India (MERA-India)" which is a conglomeration of partners working on malaria control.
- The principal activity of the Alliance is to prioritize, plan, conduct, scale up and translate relevant research in a coordinated and combinatorial way in order to have a tangible impact of this research on the population at risk for malaria.
- The purpose of MERA India is to identify, articulate, prioritize and respond to the research needs of the country to eliminate malaria from India by 2030.
- MERA India will facilitate trans-institutional coordination and collaboration around a shared research agenda which responds to not only to programmatic challenges and addresses gaps in available tools but also proactively contribute to targeted research.

- MERA India aims to harness and reinforce research in coordinated and combinatorial ways in order to achieve tangible impact on malaria elimination.
- Malawi government has launched the world's first malaria vaccine, named Mosquirix, as pilot programme.
- The country is the first of three in Africa in which the vaccine, known as RTS, S, will be made available to children up to 2 years of age; Ghana and Kenya will introduce the vaccine in near future.
- Thirty years in the making, RTS,S is the first, and to date the only, vaccine that has demonstrated it can significantly reduce malaria in children.
- In clinical trials, the vaccine was found to prevent approximately 4 in 10 malaria cases, including 3 in 10 cases of life-threatening severe malaria.
- Mosquirix, the drug has been developed by British pharmaceutical giant GlaxoSmithKline in partnership with the PATH Malaria Vaccine Initiative.