Malaria

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Malaria

- Globally in 2022, there were an estimated 249 million malaria cases and 608 000 malaria deaths in 85 countries.
- The WHO African Region carries a disproportionately high share of the global malaria burden.
 - In 2022, the African Region was home to 94% of malaria cases (233 million) and 95% (580 000) of malaria deaths.

Malaria

- Malaria is an acute febrile illness caused by *Plasmodium* parasites, which are spread to people through the bites of infected female *Anopheles* mosquitoes.
- There are 5 parasite species that cause malaria in humans, and 2 of these species – ***P. falciparum*** **and** ***P. vivax*** **–** pose the greatest threat.
- *P. falciparum* is the deadliest malaria parasite and the most prevalent on the African continent.
- *P. vivax* is the dominant malaria parasite in most countries outside of sub-Saharan Africa.

Symptoms

- The first symptoms – fever, headache and chills – usually appear 10–15 days after the infective mosquito bite and may be mild and difficult to recognize as malaria.
- Left untreated, *P. falciparum* malaria can progress to severe illness and death within a period of 24 hours.

Biological Risk factors

Not all people in malaria endemic areas are at the same risk of becoming sick or dying from malaria.

Acquired immunity is an important factor.

After repeated attacks of malaria, a significant degree of immunity is acquired.

This partial immunity reduces the risk that malaria infection will cause severe disease.

Malaria non-immunes are those who have had minimal or no previous exposure to malaria infection.

The risk of severe disease and potentially death is high among non-immunes or those with low immunity to malaria parasites.

High Risk populations

The following are high risk populations through biological risk factors:

Children under 5 years of age

Pregnant women

Non-immune migrants, mobile populations and travellers

Socio economic and cultural risk factors

Risk factors		
Poverty	Physical barriers	Social exclusion
	Accessibility barriers	
Literacy barriers	Human rights barriers	Gender barriers
Financial barriers	Cultural norms	Complex emergencies
	Psycho-social barriers	

Underserved populations are at higher risk

Populations living in remote areas facing geographical barriers to services		
Women and children from poor settings	**Indigenous populations**	**Prisoners**
Undocumented workers	**Ethnic minorities**	**Migrant Workers**

Prevention

- Over the last 2 decades, expanded access to malaria prevention interventions and strategies – including effective vector control and the use of preventive antimalarial drugs has had a major impact in reducing the global burden of this disease.

Vector control

- Vector control is a vital component of malaria control and elimination strategies as it is highly effective in preventing infection and reducing disease transmission.
- **The 2 core interventions** are **insecticide-treated nets (ITNs)** and **indoor residual spraying (IRS).**
- Progress in global malaria control is threatened by emerging resistance to insecticides among *Anopheles* mosquitoes.

Preventive chemotherapies

- Preventive chemotherapy is the use of medicines, either alone or in combination, to prevent malaria infections and their consequences.
- It includes chemoprophylaxis, intermittent preventive treatment of infants (IPTi) and pregnant women (IPTp), seasonal malaria chemoprevention (SMC) and mass drug administration (MDA).

Vaccine

- Since October 2021, WHO recommends broad use of the approved malaria vaccine among children living in regions with moderate to high *P. falciparum* malaria transmission.
- The vaccine has been shown to significantly reduce malaria, and deadly severe malaria, among young children.

Case management

- Early diagnosis and treatment of malaria reduces disease, prevents deaths and contributes to reducing transmission.
- All suspected cases of malaria should be confirmed using parasite-based diagnostic testing (through either microscopy or a rapid diagnostic test).

Case management

- The best available treatment, particularly for *P. falciparum* malaria, is artemisinin-based combination therapy (ACT).
- The primary objective of treatment is to ensure the rapid and full elimination of *Plasmodium* parasites to prevent an uncomplicated case of malaria from progressing to severe disease or death.

Antimalarial drug resistance

- Over the last decade, antimalarial drug resistance has emerged as a threat to global malaria control efforts in Africa.
- Antimalarial drug resistance is the ability of a parasite strain to survive and/or to multiply despite the administration and absorption of medicine given in doses equal to or higher than those usually recommended.

Antimalarial drug resistance

- Among the factors which facilitate the emergence of resistance to existing antimalarial drugs: the parasite mutation rate, the overall parasite load, the strength of drug selected, the treatment compliance, poor adherence to malaria treatment guideline, improper dosing, poor pharmacokinetic properties, fake drugs lead to inadequate drug exposure on parasites, and poor-quality antimalarial may aid and enhance resistance.

Elimination

- Malaria elimination is defined as the interruption of local transmission of a specified malaria parasite species in a defined geographical area as a result of deliberate activities. Continued measures to prevent re-establishment of transmission are required.
- 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.

Surveillance

Malaria surveillance is the continuous and systematic collection, analysis and interpretation of malaria-related data, and the use of that data in the planning, implementation and evaluation of public health practice.

Global targets

- ✓reducing malaria case incidence by at least 90% by 2030
- ✓reducing malaria mortality rates by at least 90% by 2030
- ✓eliminating malaria in at least 35 countries by 2030
- ✓preventing a resurgence of malaria in all countries that are malaria-free.

Goals, milestones and targets for the *Global technical strategy for malaria 2016-2030*

GOALS	MILESTONES		TARGETS
	2020	2025	2030
1. Reduce malaria mortality rates globally compared with 2015	At least 40% 18% reduction achieved 22% off track	At least 75%	At least 90%
2. Reduce malaria case incidence globally compared with 2015	At least 40% 3% reduction achieved 37% off track	At least 75%	At least 90%
3. Eliminate malaria from countries in which malaria was transmitted in 2015	At least 10 countries On track	At least 20 countries	At least 35 countries
4. Prevent re-establishment of malaria in all countries that are malaria-free	Re-establishment prevented On track	Re-establishment prevented	Re-establishment prevented


Test for malaria
Treat with an ACT