The Research Reservoir

THE RESEARCH RESERVOIR of Paramedical Sciences

International Peer- Reviewed, Referred, Indexed Journal January - June 2026 Volume: 12 Issue: 1

MALARIA PREVENTION AND CONTROL: CURRENT STRATEGIES, CHALLENGES, AND FUTURE DIRECTIONS

Dr. M. Brindhalakshmi*

**Vice Principal, Columbia College of Nursing, Bengaluru, Karnataka, India.*

https://doi.org/10.47211/trr.2026.v12i01.008

ABSTRACT

Malaria is one of the most significant mosquito-borne infectious diseases worldwide, causing substantial morbidity and mortality, mainly in tropical and subtropical regions. It is caused by Plasmodium parasites and transmitted through the bite of infected female Anopheles mosquitoes. Despite advances in diagnosis, treatment, and prevention, malaria continues to pose a major public health challenge, especially in low- and middle-income countries. The present study reviews the epidemiology, transmission, clinical manifestations, and global burden of malaria, while emphasizing contemporary prevention and control strategies. Key interventions discussed include vector control measures such as insecticide-treated nets (ITNs), long-lasting insecticidal nets (LLINs), indoor residual spraying (IRS), chemoprevention for vulnerable populations, chemoprophylaxis for travellers, personal protective measures, malaria vaccination, early diagnosis and treatment, surveillance systems, and community engagement initiatives. The emergence of insecticide-resistant mosquito vectors and drug-resistant parasite strains presents ongoing challenges to malaria elimination efforts. However, integrated and evidence-based approaches combining preventive, diagnostic, therapeutic, and educational strategies have demonstrated substantial success in reducing malaria transmission and mortality. Strengthening health systems, expanding vaccine coverage, improving surveillance, and fostering community participation are essential to achieving global malaria control and eventual elimination.

Keywords: *Malaria, Plasmodium, Anopheles mosquito, Vector control, Insecticide-treated nets (ITNs).*

ABOUT THE AUTHOR

Author, Dr. M. Brindhalakshmi is the Vice Principal of Columbia College of Nursing. She holds a B.Sc. Nursing from The Tamil Nadu Dr. M.G.R. Medical University, an M.Sc. Nursing in Community Health Nursing from Rajiv Gandhi University of Health Sciences, Karnataka, and a Ph.D. in Nursing from Annamalai University, Tamil Nadu. With extensive experience in community health nursing, nursing education, and public health research, she has contributed significantly to academic and clinical nursing practice. Her academic and professional expertise is centred on community health nursing, nursing education, and public health research.

The Research Reservoir
THE RESEARCH RESERVOIR of Paramedical Sciences
International Peer- Reviewed, Referred, Indexed Journal January - June 2026 Volume: 12 Issue: 1

INTRODUCTION

Malaria is a life-threatening parasitic disease caused by Plasmodium parasites and effect humans through the bite of infected female Anopheles mosquitoes. Five Plasmodium species infect humans: P. falciparum, P. vivax, P. ovale, P. malariae, and P. knowlesi, with P. falciparum causing most deaths and P. vivax being the most widespread.

After a mosquito bite, parasites first multiply in the liver, then enter into the bloodstream and infect red blood cells, where they cause cells to rupture. This cycle leads to the classic symptoms of malaria: fever, chills, sweating, headache, muscle aches, fatigue, nausea, and vomiting, typically appearing 10–15 days after infection. If untreated, P. falciparum malaria can progress rapidly to severe illness, including cerebral malaria, severe anemia, respiratory distress, organ failure, and death, especially in young children, pregnant women, and non-immune travellers.

Malaria remains endemic in tropical and subtropical regions of sub-Saharan Africa, South Asia, Southeast Asia, and parts of Latin America, with about 249 million cases and 608,000 deaths reported in 2022, 95% in Africa. Prevention relies on vector control like insecticide-treated bed nets and indoor spraying, chemoprevention for high-risk groups, and now vaccines such as RTS,S/AS01 and R21 for children. Early diagnosis by rapid test or microscopy and prompt treatment with artemisinin-based combination therapies are critical to cure infection, prevent complications, and reduce transmission.

Despite being a highly preventable and treatable disease, malaria continues to impose a devastating public health burden. The World Health Organization (WHO) estimates that in 2024, there were 282 million malaria cases globally, an increase of 1 million from the previous year, and with an estimated 610,000 malaria-associated deaths [World Health Organization World Malaria Report 2025].

In 2021, there were an estimated 247 million malaria cases and 619 000 deaths in 84 endemic countries. Plasmodium falciparum strains partly resistant to artemisinins are entrenched in the Greater Mekong region and have emerged in Africa, while Anopheles mosquito vectors continue to evolve physiological and behavioural resistance to insecticides. Elimination of Plasmodium vivax malaria is hindered by impractical and potentially toxic antirelapse regimens. Parasitological diagnosis and treatment with oral or parenteral artemisinin-based therapy is the mainstay of patient management. Timely blood transfusion, renal replacement therapy, and restrictive fluid therapy can improve survival in severe malaria. Rigorous use of intermittent preventive treatment in pregnancy and infancy and seasonal chemoprevention, potentially combined with pre-erythrocytic vaccines endorsed by WHO in 2021 and 2023, can substantially reduce malaria morbidity. (Poespoprodjo JR et al 2023)

In the US, most malaria is diagnosed in people who travelled to an endemic region. More than 80% of people diagnosed with malaria in the US acquired the infection in Africa. Of the approximately 2000 people diagnosed with malaria in the US in 2017, an estimated 82.4% were adults and about 78.6% were Black or African American. Among US residents diagnosed with malaria, 71.7% had not taken malaria chemoprophylaxis during travel. In 2017 in the US, P falciparum was the species diagnosed in approximately 79% of patients, whereas P vivax was diagnosed in an estimated 11.2% of patients. In 2017 in the US, severe malaria, defined as vital organ involvement including shock, pulmonary oedema, significant bleeding, seizures, impaired consciousness, and laboratory abnormalities such as kidney impairment, acidosis, anemia, or high parasitaemia, occurred in approximately 14% of patients, and an estimated 0.3% of those receiving a diagnosis of malaria in the US died. P falciparum has developed resistance to chloroquine in most regions of the world, including Africa. First-line therapy for P falciparum malaria in the US is combination therapy that includes artemisinin. If P falciparum was acquired in a known chloroquine-sensitive region such as Haiti, chloroquine remains an alternative option. When artemisinin-based combination therapies are not available, atovaquone-proguanil or quinine plus clindamycin is used for chloroquine-resistant malaria. P vivax, P ovale, P malariae, and P knowlesi are typically chloroquine sensitive, and treatment with either artemisinin-based combination therapy or chloroquine for regions with chloroquine-susceptible infections for uncomplicated malaria is recommended. For severe malaria, intravenous

The Research Reservoir
THE RESEARCH RESERVOIR of Paramedical Sciences
International Peer- Reviewed, Referred, Indexed Journal January - June 2026 Volume: 12 Issue: 1

artesunate is first-line therapy. Treatment of mild malaria due to a chloroquine-resistant parasite consists of a combination therapy that includes artemisinin or chloroquine for chloroquine-sensitive malaria. P vivax and P ovale require additional therapy with an 8-aminoquinoline to eradicate the liver stage. Several options exist for chemoprophylaxis and selection should be based on patient characteristics and preferences.(Daily JP et al 2022)
Severe malaria is a medical emergency. It is a major cause of preventable childhood death in tropical countries. Severe malaria justifies considerable global investment in malaria control and elimination yet, increasingly, international agencies, funders and policy makers are unfamiliar with it, and so it is overlooked. In sub-Saharan Africa, severe malaria is over diagnosed in clinical practice. Approximately one third of children diagnosed with severe malaria have another condition, usually sepsis, as the cause of their severe illness. But these children have a high mortality, contributing substantially to the number of deaths attributed to 'severe malaria'. Simple well-established tests, such as examination of the thin blood smear and the full blood count, improve the specificity of diagnosis and provide prognostic information in severe malaria. They should be performed more widely. Early administration of artesunate and broad-spectrum antibiotics to all children with suspected severe malaria would reduce global malaria mortality. (White NJ et al 2022)
In the past decade, sporadic cases of non-imported malaria were recorded in several European countries such as Germany, France, Spain and Malta, and locally transmitted outbreaks of *Plasmodium vivax*, most probably supported by *Anopheles sacharovi*, have been repeatedly reported from Greece since 2009. The possibility of locally-transmitted malaria has been extensively studied in Italy, where the former malaria vector *Anopheles labranchiae* survived, and resurged after the malaria elimination campaign [Majori G et al 2012].
Presently, this species is recorded from scattered foci of coastal rural areas of central and southern Italy where it may reach high abundance in the warm season. Populations of *An. labranchiae* have strongly been suspected to be responsible for autochthonous *P. vivax* transmission after malaria elimination, whereas it appears that this species has a low susceptibility to the afro-tropical *Plasmodium falciparum* according to experimental and epidemiological evidence [Toty C et al 2010].
In 2009 and 2010 cases of *P. vivax* malaria (n = 6 and n = 1, respectively) most probably locally acquired were recorded in the agricultural area of Evrotas, Laconia in Peloponnese in Southern Greece [Hellenic Centre for Disease Control and Prevention (HCDCP), Department of Epidemiological Surveillance and Intervention. Epidemiological data for malaria in Greece, 2013].
In 2011, an outbreak of 36 confirmed locally acquired *P. vivax* cases were recorded in Greek citizens with no history of travel, and 21 imported cases in immigrants from non-endemic countries in the same area [Hellenic Centre for Disease Control and Prevention (HCDCP), Department of Epidemiological Surveillance and Intervention. Epidemiological data for malaria in Greece, 2012].
After the 2011 outbreak, a multidisciplinary strategy with a variety of intensive response activities, was adopted and implemented in Evrotas. The mosquito-borne disease, malaria, continues to impose a devastating health and economic burden worldwide. In malaria-endemic areas, insecticide-treated nets (ITNs) have been useful in curtailing the burden of the disease. However, mosquito resistance to insecticides, decay in ITN efficacy, net attrition, etc., undermine the effectiveness of ITNs in combatting malaria. In this study, mathematical models that account for asymptomatic infectious humans (through a partially immune class or a separate asymptomatic infectious class), insecticide resistance, and decay in ITN efficacy are proposed and analysed. Analytical and numerical results of the models when ITN efficacy is constant show that there are parameter regimes for which a backward bifurcation occurs.

Prevention and control measures for malaria target both the mosquito vector and the human host to break the transmission cycle.

1. Vector control – reduce mosquito bites: Vector control aimed at reducing mosquito bites is a cornerstone of malaria prevention and control because it interrupts transmission by targeting adult Anopheles mosquitoes before they infect humans. Core interventions include insecticide-treated nets (ITNs) and long-lasting insecticidal

The Research Reservoir
THE RESEARCH RESERVOIR of Paramedical Sciences
International Peer- Reviewed, Referred, Indexed Journal January - June 2026 Volume: 12 Issue: 1

nets (LLINs), which provide a physical barrier and kill mosquitoes on contact, and indoor residual spraying (IRS), where insecticides are applied to interior walls to target resting females. In outbreak or high-risk settings, vector control should be implemented rapidly over at least a 1-mile radius around suspected transmission sites, using adulticiding methods such as aerosol sprays via aircraft, trucks, or backpack sprayers to quickly reduce adult populations. Because aerosols have no residual effect and act only when droplets contact mosquitoes in flight, applications are timed for peak Anopheles activity, generally at night. Complementary strategies include larval source management to eliminate breeding sites, environmental management to drain standing water, and house improvements like screening to block entry. Emerging tools such as spatial emanators, which release active ingredients to kill or repel mosquitoes, add protection against daytime biting when people are not under nets. Effective vector control requires entomological surveillance to monitor species, insecticide resistance, and behaviour, since outdoor biting and resistance can limit impact. When combined with ITNs, IRS, and community engagement, these measures substantially lower human biting rates and entomological inoculation rates, driving down transmission intensity. (Centres for Disease Control and Prevention. (2026).

2. Chemoprevention – protect vulnerable groups: Chemoprevention uses full treatment courses of antimalarial medicines, given at defined intervals to populations at highest risk, to clear existing infections and prevent new ones during periods of greatest malaria risk. This strategy protects vulnerable groups who bear the heaviest burden of severe disease and death. WHO-recommended approaches include intermittent preventive treatment in pregnancy (IPTp) for all women at risk, perennial malaria chemoprevention (PMC) for infants and children up to 24 months in moderate-to-high transmission areas, seasonal malaria chemoprevention (SMC) for children 3–59 months in areas with highly seasonal transmission, post-discharge malaria chemoprevention (PDMC) for children recovering from severe anaemia, and intermittent preventive treatment for school-aged children (IPTsc) aged 5–15 years where transmission is perennial or seasonal. SMC, typically sulfadoxine-pyrimethamine plus amodiaquine given monthly for 3–5 cycles during the rainy season, has been scaled to reach ~49 million children per cycle across 17 African countries and reduces clinical malaria by 75% among recipients. PMC is often delivered through the Expanded Programme on Immunization, while PDMC provides 4–6 months of protection after hospital discharge. These drug-based strategies are safe, cost-effective, and intended to complement vector control, prompt diagnosis, and treatment. They target the parasite reservoir in high-risk groups, lowering community transmission and improving health-related quality of life, though effectiveness depends on adherence, drug resistance, and integration with existing health services. (World Health Organization. (2025).

3. Chemoprophylaxis for travellers: Chemoprophylaxis for travellers is a drug-based malaria prevention strategy that uses antimalarial medicines before, during, and after travel to malaria-endemic areas to suppress blood-stage parasites and prevent clinical illness. Because no regimen is 100% effective, chemoprophylaxis must be combined with personal protective measures such as insect repellent, long sleeves, long pants, and sleeping under insecticide-treated bed nets or in screened accommodations. Drug choice depends on destination-specific resistance patterns, itinerary, duration, and patient factors including age, pregnancy, drug allergies, and potential interactions. Common regimens include atovaquone-proguanil, doxycycline, mefloquine, and tafenoquine, all with comparable efficacy where recommended. Atovaquone-proguanil is preferred for last-minute travel because it begins 1–2 days before departure and continues for only 7 days after leaving the endemic area, while mefloquine and doxycycline require starting earlier and continuing for 4 weeks post-travel. Primaquine has two roles: primary chemoprophylaxis in areas with primarily P. vivax and terminal chemoprophylaxis to eliminate hypnozoites after prolonged exposure to P. vivax or P. ovale, reducing relapse risk. G6PD testing is required before primaquine or tafenoquine due to haemolysis risk. Proper use of effective chemoprophylaxis reduces malaria illness by >90%, though breakthrough infections can occur, so fever during or after travel warrants prompt malaria testing. (Centres for Disease Control and Prevention. (2024).

4. Personal protection Repellents: Personal protection using topical and spatial repellents is a key complementary measure for malaria prevention, especially when long-lasting insecticidal nets (LLINs) or indoor

The Research Reservoir
THE RESEARCH RESERVOIR of Paramedical Sciences
International Peer- Reviewed, Referred, Indexed Journal January - June 2026 Volume: 12 Issue: 1

residual spraying (IRS) cannot fully prevent bites outdoors or outside sleeping hours. Topical repellents are applied to exposed skin and contain EPA-registered active ingredients such as DEET, picaridin/icaridin, IR3535, oil of lemon eucalyptus (OLE), or para-menthane-diol (PMD), which interfere with mosquitoes' ability to detect human odours and heat. For travellers, using DEET-based repellents after dusk, wearing long-sleeved clothing, and sleeping in screened or air-conditioned rooms forms the foundation of malaria prevention in all risk areas. While topical repellents are effective for individual bite prevention, Cochrane evidence indicates uncertainty about their community-level impact on malaria incidence, partly due to daily compliance challenges, inconsistent application, and poor standardization of use. In endemic settings, repellents are most useful for high-risk groups like refugees, forest workers, or displaced populations who lack access to LLINs. Combining repellent use with LLINs can further reduce P. falciparum infections. Spatial repellents and insecticide-treated clothing are additional tools, with the former showing promise for outdoor and daytime protection. Despite limitations, topical repellents remain recommended for travellers and selected at-risk populations as part of an integrated strategy with chemoprophylaxis and vector control. (Gabaldón Figueira, J. C., Chan, K., van Lieshout, L., Visser, B. J., & ter Haar, E. (2023).

5. Vaccination: Vaccination has become a groundbreaking addition to malaria prevention and control, offering direct protection against Plasmodium falciparum infection in young children living in endemic areas. The RTS,S/AS01 (Mosquirix) vaccine, recommended by WHO in 2021, targets the circumsporozoite protein on sporozoites to block liver-stage infection before blood-stage disease develops. The WHO recommends a 4-dose schedule: three primary doses given at minimum 4-week intervals starting from 5 months of age, with a fourth dose 12–18 months after dose three to prolong protection. Phase 3 trials showed RTS,S/AS01 reduced clinical malaria by 46% and severe malaria by 36% in children aged 5–17 months during 18 months of follow-up after dose three. Vaccine efficacy wanes after the first year, making the booster essential; without the fourth dose, efficacy against clinical malaria over 3–4 years falls to 34%, compared with 46% when the booster is given. Implementation through the Malaria Vaccine Implementation Programme in Ghana, Kenya, and Malawi demonstrated feasibility, with first-dose coverage reaching ≥80% and three-dose coverage ≥75% by the end of the pilot, though fourth-dose uptake was lower at ~46% until aligned with routine 18-month vaccinations. RTS,S/AS01 does not interfere with other interventions like insecticide-treated nets or chemoprevention and provides protection even for children who do not sleep under nets, ensuring ≥90% of children are covered by at least one malaria control tool. While efficacy is moderate, the vaccine reduces all-cause mortality by 13% and hospitalizations for severe malaria by 22%, saving tens of thousands of lives annually when deployed broadly alongside existing measures. (World Health Organization. (2022).

6. Early diagnosis and treatment Prompt testing: Early diagnosis and prompt treatment through parasite-based testing are fundamental to malaria prevention and control, because they stop disease progression, reduce transmission, and prevent deaths. WHO recommends that all patients with suspected malaria receive parasitological confirmation by microscopy or quality-assured rapid diagnostic tests (RDTs) before antimalarial treatment is given. Early and accurate diagnosis enables health providers to distinguish malarial from non-malarial fevers, select appropriate therapy, and avoid unnecessary use of antimalarials that drives drug resistance. Treatment should be initiated as soon as possible, ideally within 24 hours of fever onset, because P. falciparum can progress rapidly from uncomplicated to severe, life-threatening illness. Programs must therefore ensure fast access to testing and effective artemisinin-based combination therapy no later than 24–48 hours after symptoms begin. The WHO "3 Ts" initiative—Test, Treat, and Track—emphasizes testing all suspected cases, treating only confirmed cases, and tracking to improve surveillance. RDTs have transformed access: they are simple, give results in 15–30 minutes, require minimal training, and allow diagnosis at community level, with 3.9 billion RDTs delivered globally from 2010–2022. When combined with community health workers, RDT-based diagnosis and early treatment reduce malaria morbidity and mortality even in low-transmission settings. (World Health Organization. (2021).

The Research Reservoir
THE RESEARCH RESERVOIR of Paramedical Sciences
International Peer- Reviewed, Referred, Indexed Journal January - June 2026 Volume: 12 Issue: 1

7. Surveillance and response: Surveillance and response is a core intervention that transforms malaria control from blanket coverage to targeted, data-driven action. As transmission declines, malaria surveillance shifts from aggregated reporting to case-based systems that detect, investigate, classify, and respond to every infection to interrupt onward transmission and prevent re-establishment. China's 1-3-7 strategy, widely adapted globally, exemplifies this approach: cases must be notified within 1 day, investigated and confirmed within 3 days, and foci response activities completed within 7 days. Response includes reactive case detection, vector control around the case, and community engagement. WHO's Global Technical Strategy 2016–2030 establishes "transforming malaria surveillance into a core intervention" as Pillar 3, recognizing that quality data enables countries to pinpoint where to deploy tools for maximum impact and move away from one-size-fits-all programs. In moderate-to-high transmission settings, surveillance guides subnational tailoring of interventions, monitors drug and insecticide resistance, and tracks progress toward elimination. Digital platforms like eIDSR improve timeliness and completeness; in Tanzania, weekly electronic reporting achieved >90% completeness by 2020, supporting early outbreak detection in very low-transmission strata. Effective surveillance integrates data across health facilities, community workers, and the private sector, uses standardized indicators, and links to response teams. By driving decisions on resource allocation, outbreak anticipation, and elimination certification, surveillance and response reduce burden, accelerate elimination, and sustain malaria-free status. (Zhou, X.-N., & Bergquist, R. (2020).

8. Community engagement and education: Community engagement and education are foundational to malaria prevention and control because sustained behaviour change—like nightly insecticide-treated net (ITN) use, prompt care-seeking, and acceptance of indoor residual spraying (IRS)—depends on local ownership and trust. Effective programs move beyond one-way sensitization to collaborative processes that listen to community voices before design, train local actors, and embed activities in existing social structures. In Angola's Cunene and Cuando Cubango provinces, Community Malaria Elimination Committees (COCEMAs) mapped their villages, identified needs, and held monthly meetings with government authorities to co-design solutions. Trained community members and volunteers then led advocacy in churches, schools, and meetings, conducted sensitization before ITN distributions, and supported consistent use afterward. Post-engagement data showed 99% household acceptance of IRS and 87% of nets used the previous night in program areas. Similar approaches include training community health volunteers to deliver health education on malaria prevention, identify fevers, and refer suspected cases to facilities; in Southeast Nigeria, such capacity-building improved volunteers' knowledge and attitudes toward community involvement. School-based social and behaviour change communication (SBCC) further amplifies reach by training teachers and peer educators to cascade messages to students and families, promoting ITN use, timely care-seeking, and environmental management. Across contexts, successful engagement treats communities as experts in local realities, uses culturally appropriate channels like theatre, song, and peer networks, and integrates malaria activities with broader health priorities to ensure sustainability as transmission declines. (Atkinson, et al 2019)

CONCLUSION

Malaria is still major global health concern despite being a preventable and treatable disease. The present review, highlights the need for sustained and coordinated control efforts. Effective malaria prevention and control require a comprehensive approach that integrates vector control, chemoprevention, vaccination, personal protective measures, early diagnosis, prompt treatment, surveillance, and community participation. With continued investment, innovation, and global collaboration, significant reductions in malaria burden can be achieved, bringing the world closer to the ultimate goal of malaria elimination and improved public health outcomes.

The Research Reservoir
THE RESEARCH RESERVOIR of Paramedical Sciences
International Peer- Reviewed, Referred, Indexed Journal January - June 2026 Volume: 12 Issue: 1

REFERENCES

1. Atkinson, J.-A., Vallely, A., Fitzgerald, L., Whittaker, M., & Tanner, M. (2019). The 2019 Isdell: Flowers Cross Border Malaria Initiative Round Table: Community engagement in the context of malaria elimination. Malaria Journal, 18, 432. https://doi.org/10.1186/s12936-019-3053-5
2. Centres for Disease Control and Prevention. (2026). CDC operational guidance for investigating locally acquired mosquito-transmitted malaria — United States, 2026. MMWR Recommendations and Reports, 75(RR-1), 1–24.
3. Centres for Disease Control and Prevention. (2024). Choosing a drug to prevent malaria. https://www.cdc.gov/malaria/travelers/drugs.html
4. Daily JP, Minuti A, Khan N. Diagnosis, Treatment, and Prevention of Malaria in the US: A Review. JAMA. 2022 Aug 2;328(5):460-471. doi: 10.1001/jama.2022.12366. PMID: 35916842.
5. Gabaldón Figueira, J. C., Chan, K., van Lieshout, L., Visser, B. J., & ter Haar, E. (2023). Topical repellents for malaria prevention. Cochrane Database of Systematic Reviews, 2023(6), CD011491. https://doi.org/10.1002/14651858.CD011491.pub2
6. Hellenic Center for Disease Control and Prevention (HCDCP), Department of Epidemiological Surveillance and Intervention. Epidemiological data for malaria in Greece, 2013. Available: http://www.keelpno.gr/Portals/0/Files/English%20files/Malaria%20reports/Malaria_Report_EN_2013_11_16.pdf
7. Hellenic Center for Disease Control and Prevention (HCDCP), Department of Epidemiological Surveillance and Intervention. Epidemiological data for malaria in Greece, 2012. Available: http://www.keelpno.gr/Portals/0/Files/English%20files/Malaria%20reports/Malaria%20Report_2012_FINAL_23-82013_EN.pdf
8. Majori G. Short history of malaria and its eradication in Italy with short notes on the fight against the infection in the Mediterranean basin. Med J Mediterr J Hematol Infect Dis. 2012;4(1):e2012016. doi: 10.4084/MJHID.2012.016.
9. Poespoprodjo JR, Douglas NM, Ansong D, Kho S, Anstey NM. Malaria. Lancet. 2023 Dec 16;402(10419):2328-2345. doi: 10.1016/S0140-6736(23)01249-7. Epub 2023 Nov 2. PMID: 37924827.
10. Toty C, Barré H, Le Goff G, Larget-Thiéry I, Rahola N, Couret D, Fontenille D. Malaria risk in Corsica, former hot spot of malaria in France. Malar J. 2010;9:231. doi: 10.1186/1475-2875-9-231.
11. White NJ. Severe malaria. Malar J. 2022 Oct 6;21(1):284. doi: 10.1186/s12936-022-04301-8. PMID: 36203155; PMCID: PMC9536054.
12. World Health Organization World Malaria Report 2025. [(accessed on 28 December 2025)]. Available online: https://www.who.int/publications/i/item/9789240117822
13. World Health Organization. (2021). Diagnostic testing for malaria. https://www.who.int/teams/global-malaria-programme/case-management/diagnosis
14. World Health Organization. (2025). Preventive chemotherapies. In Global Malaria Programme. https://www.who.int/teams/global-malaria-programme/prevention/preventive-chemotherapies
15. World Health Organization. (2022). Malaria vaccine: WHO position paper – March 2022. Weekly Epidemiological Record, 97(9), 60–78.
16. Zhou, X.-N., & Bergquist, R. (2020). 1-3-7 surveillance and response approach in malaria elimination: China's practice and global adaptions. Infectious Diseases of Poverty, 9(1), 162. https://doi.org/10.1186/s40249-020-00785-y