Updates: WHO Guidelines for the Treatment of Malaria

4th RBM Case Management Working Group (CMWG) Meeting
Geneva, Switzerland
6 - 7 July, 2010

Dr. Peter OLUMESE,
Global Malaria Programme
WHO, Geneva, Switzerland.

World Health Organization

Malaria Case Management

Guidelines for the treatment of malaria (2nd Edition)
http://www.who.int/malaria/docs/TreatmentGuidelines2010.pdf

- 2nd Edition – (March 2010)
- ...provide comprehensible, global and evidence-based guidelines for the formulation of policies and protocols for the treatment of malaria
- provide a framework for development of specific diagnosis and treatment protocols in countries
  - Taking in account national and local malaria drug resistance pattern and health services capacity
- It is not a clinical management manual for the treatment of malaria
Malaria Diagnosis

- Prompt parasitological confirmation by microscopy or alternatively by RDTs is recommended in all patients suspected of malaria before treatment is started.

- Treatment solely on the basis of clinical suspicion should only be considered when a parasitological diagnosis is not accessible.
Treatment of Uncomplicated Falciparum Malaria

- Artemisinin-based combination therapies (ACTs) are the recommended treatments for uncomplicated falciparum malaria.

- ACTs should include at least 3 days of treatment with an artemisinin derivative.

- The following ACTs options are recommended:
  - Artemether + lumefantrine; artesunate + amodiaquine; artesunate + mefloquine; artesunate + sulfadoxine-pyrimethamine; and dihydroartemisinin + piperaquine.

- Second-line antimalarial treatment:
  - Alternative ACT known to be effective in the region;
  - Artesunate plus tetracycline or doxycycline or clindamycin.
  - Quinine plus tetracycline or doxycycline or clindamycin.

Treatment of severe malaria

- For adults, artesunate i.v. or i.m
  - Quinine remains an acceptable alternative.

- For children (especially in the malaria endemic areas of Africa) the following options are recommended as there is insufficient evidence to recommend any of these antimalarial medicines over another:
  - artesunate i.v. or i.m.
  - quinine (i.v. infusion or divided i.m. injection)
  - artemether i.m.

- Give parenteral antimalarials for a minimum of 24hrs once started (irrespective of the patient's ability to tolerate oral medication earlier), and, thereafter, complete treatment by giving a complete course of:
  - an ACT
  - artesunate + clindamycin or doxycycline
  - quinine + clindamycin or doxycycline.
Special Groups

Pregnancy

● First trimester:
  – Quinine + clindamycin
  – An ACT is indicated only if this is the only treatment immediately available, or if treatment with quinine + clindamycin fails or compliance issues with a 7-day treatment.

● Second and third trimesters:
  – ACTs known to be effective in the country/region or artesunate + clindamycin or quinine + clindamycin

Lactating women

– Lactating women should receive standard antimalarial treatment (including ACTs) except for dapsone, primaquine and tetracyclines.

Infants and young children

– ACTs with attention to accurate dosing and ensuring

Travellers returning to non-endemic countries:

– atovaquone-proguanil
– Artemether +lumefantrine
– dihydroartemisinin + piperaquine
– quinine + doxycycline or clindamycin.
Treatment of vivax malaria

- Chloroquine combined with primaquine is the treatment of choice for chloroquine-sensitive infections.
- In areas with chloroquine resistant P. vivax, ACTs (except for artesunate + SP) is recommended for the treatment of P. vivax malaria.
- At least a 14-day course of primaquine is required for the radical treatment (0.25 – 0.5mg/kg/day).
- In persons with mild - moderate forms of G6PD deficiency: primaquine 0.75 mg base/kg bw given once a week for 8 weeks.
- In persons with severe forms of G6PD deficiency, primaquine is contraindicated.

IMCI: Updated Algorithm

- If fever:
  - Temperature: High or low
- If fever:
  - History of fever within 3 days
- History of malaria in the last 6 months
- Presence of aches and pains
- Presence of vomiting
- Presence of chills
- Presence of cough
- Presence of diarrhea

If the child has received an antimalarial drug in the last 2 months:
- Presence of fever

IMCI: Updated Algorithm

- If fever:
  - Temperature: High or low
- If fever:
  - History of fever within 3 days
- History of malaria in the last 6 months
- Presence of aches and pains
- Presence of vomiting
- Presence of chills
- Presence of cough
- Presence of diarrhea

If the child has received an antimalarial drug in the last 2 months:
- Presence of fever

*These temperatures are based on axillary temperature. Rectal temperature readings are approximately 0.5°C higher.
**For infants, axillary temperature is used.
***Other possible causes of fever: infections may include urinary tract infection, tonsilitis, otitis media and gastroenteritis.
****Other important symptoms: vomiting, diarrhea, generalized rash, severe anemia, altered mental status, and jaundice may be present in severe cases.
**Community Case Management of Malaria (CCM Malaria)**

- ACTs once introduced in the country, should also be implemented at community level.

- Trained community providers (CHWs, Medicine Sellers or Retailers) should be provided with:
  - Rapid diagnostic tests
  - ACTs for treatment of uncomplicated malaria.
  - Rectal artemisinin suppositories for pre-referral treatment of severe malaria.
  - Information, Education and Communication materials.
  - Simple patient registers and reporting forms.

---

**Support interventions for effective malaria case management**

- Supply chain management
  - Quantification, stock management etc....
    - Medicines
    - Diagnostics

- Capacity development and training

- ASCM/BCC

- Quality Control / Assurance

- Pharmacovigilance

- M&E and disease surveillance
  - Treatment policy (implementation status and uptake)
  - Malaria disease trends

- Monitoring resistance of antimalarial medicines (therapeutic efficacy monitoring)