Global **Malaria** Programme

Intermittent screening and treatment in pregnancy and the safety of ACTs in the first trimester

NOVEMBER 2015

RECOMMENDATIONS

BACKGROUND

Malaria in pregnancy is a major, preventable cause of maternal morbidity and poor birth outcomes. To prevent these adverse outcomes, WHO recommends the use of insecticide treated mosquito nets and effective case management of malaria and anaemia in pregnant women. In areas of moderate to high malaria transmission of sub-Saharan Africa, WHO also recommends intermittent preventive treatment in pregnancy (IPTp) with sulphadoxine-pyrimethamine (SP). In recent years an alternative strategy, consisting of intermittent screening and treatment in pregnancy (ISTp) using rapid diagnostic tests (RDTs) and treatment with artemisinin-based combination therapies (ACTs) during antenatal care (ANC) visits, has been evaluated in several countries. Moreover, multiple studies have assessed the safety of using ACTs in the first trimester of pregnancy.

RECOMMENDATIONS

Based on a recent WHO evidence review(*1*), the following recommendations are made on the use of IPTp and ISTp in pregnancy and on the safety of ACTs in the first trimester.

1. Recent comparative studies have shown that intermittent screening and treatment in pregnancy (ISTp) with RDTs and ACTs resulted in a higher proportion of maternal infections and clinical malaria during pregnancy compared to intermittent preventive treatment in pregnancy (IPTp) with SP given during ANC visits. The effects of ISTp on birth weight varied. In some studies, ISTp with artemether-lumefantrine was not inferior to IPTp in preventing low birth weight. In other studies, ISTp with dihydroartemisinin-piperaquine (DHA-PPQ) resulted in a lower mean birth weight compared with

World Health Organization

WHO/HTM/GMP/2015.9

IPTp-SP in paucigravidae in areas of high malaria transmission and high SP resistance. ISTp is also less cost-effective than IPTp-SP and, for these reasons, it is not recommended as an alternative to IPTp-SP.

2. IPTp-SP remains highly cost-effective in preventing the adverse consequences of malaria on maternal and fetal outcomes, and should therefore be actively scaled up in line with the current WHO recommendations. IPTp-SP also remains effective in areas where quintuple-mutant haplotypes of Plasmodium falciparum to SP are highly prevalent. Further research on the relationship of SP resistance markers and IPTp effectiveness should be done, particularly in areas where transmission and thus maternal immunity have declined substantially in recent years.

3. The threshold level of malaria transmission below which IPTp-SP is no longer cost-effective has not been identified. Therefore, in areas where IPTp-SP is implemented and transmission has been reduced to low levels as a result of successful control strategies, WHO recommends continued IPTp-SP implementation until the area approaches interruption of transmission.

4. An association between sextuple mutant haplotypes of P. falciparum and decreased birth weight has been reported in observational studies in a few sites in East Africa. Further studies are required to assess this and to devise the best and most cost-effective prevention strategies in areas of very high SP resistance. One potential strategy to be tested is to provide a single RDT screening and ACT treatment at the first ANC visit during the second trimester, in addition to the continued delivery of IPTp-SP.

5. Recent studies have shown that IPTp with dihydroartemisinin-piperaquine (DHA-PPQ) does not reduce the incidence of low birth weight compared to IPTp-SP, but that it is more efficacious in reducing maternal malaria parasitaemia and anaemia at delivery, incidence of malaria infection and clinical malaria during pregnancy, and stillbirths and early infant mortality (i.e. within 6–8 weeks). More research is needed to evaluate the impact of DHA-PPQ for IPTp in preventing low birth weight, safety of repeated doses, and adherence to the required 3-day regimen.

6. New evidence from 1025 pregnancies with confirmed artemisinin exposure in the first trimester in South-East Asia and sub-Saharan Africa indicates that artemisinins are not associated with an increased risk of miscarriage, stillbirths or major congenital malformations compared to non-artemisinin regimens. Moreover, comparison of carefully documented and prospectively collected safety data on women exposed only to artemisinin-based treatment with data collected on women exposed only to quinine in the first trimester of pregnancy showed that artemisinin was associated with a significantly reduced rate of miscarriage compared to quinine. MPAC recommends the review of the WHO Guidelines for the treatment of malaria to consider the timely inclusion of ACTs as a first-line therapeutic option for uncomplicated falciparum malaria.

REFERENCES

1. The report available on the WHO Global Malaria Programme website at http://www.who.int/malaria/mpac/mpac-sept2015-erg-mip-report.pdf