Intermittent preventive treatment in pregnant women for prevention of malaria.

Kevin Smith*

Directorate of Research and Innovation, Mount Kenya University, P.O. Box 342, 01000, Thika, Kenya

Introduction

Malaria infection in expecting mothers is a severe public health concern. The immune system of a pregnant woman is weakened, making her more susceptible to malaria infection and increasing the risk of sickness, anaemia, severe disease, and even death. Malaria in the mother increases the risk of spontaneous abortion, stillbirth, early delivery, and low birth weight in the unborn child, all of which are leading causes of infant mortality [1].

Effect of malaria during pregnancy

In high-transmission areas, malaria is connected to maternal anaemia, which can lead to maternal death if it is severe, and Low Birth Weight (LBW) due to preterm and intrauterine growth retardation. Prenatal death, as well as illness and mortality during childhood, are all linked to LBW. Malaria during pregnancy may affect the development of antimalarial immunity in children during their formative years. Between the ages of four and six months, infants born to placenta-infected women were shown to be more likely than those born to non-infected mothers to get malaria. Another malaria-endemic region has achieved similar results [2]. It was claimed that offspring of placental-infected multi gravid women had the highest risk of parasitaemia throughout the early years of life as compared to children of primigravid and/or placental non-infected moms.

Malaria prevention strategies for pregnant women

Chemoprophylaxis with Chloroquine (CQ) was used weekly or biweekly in West African countries, while Dapsone-Pyrimethamine (DP) or Sulphadoxine-Pyrimethamine (SP) was employed in East African countries. LBW, maternal anaemia, and placental malaria infection have all been found to be prevented by this type of chemoprophylaxis in numerous investigations. Unfortunately, the procedures were rendered ineffectual due to the parasites' developing resistance to these therapies and the women's poor compliance with treatment. Chemoprophylaxis should no longer be recommended for all pregnant women living in areas where malaria transmission is stable; instead, intermittent preventative therapy, which was proposed in 1998 and finally implemented in 2004, should be used instead.

IPTp (intermittent preventative treatment) entails giving a single curative dose of an effective anti-malarial drug at least twice during pregnancy, regardless of whether or not the woman is infected. Medication is provided under supervision during prenatal care (ANC) sessions [3]. Sulphadoxine-pyrimethamine is currently recommended by the WHO due to its safety and efficacy in pregnancy. When compared to placebo or CQ prophylaxis, several trials have shown that IPTp with SP has a high efficacy in preventing placental infection, LBW, and/or severe maternal anaemia.

The WHO recommends taking at least two doses of SP when pregnant. This idea was based on the average number of ANC visits women had in African countries, as well as the findings of the first IPTp investigations. While it has been established that two doses are more effective than one, few studies have looked at the efficacy of a higher number of intakes. In HIV-positive women, three or more SP doses were found to be more effective than two, but no benefit was reported in HIV-negative women in these studies. However, the results of all but one of these studies may have been skewed because the dosages provided to the women were not randomised and were instead based on how frequently they attended ANC visits.

As a result, the effectiveness of a higher number of IPTp tablets in HIV-negative and HIV-positive women remains unknown. These evaluations should take place in the context of ITN usage. ITN is the only malaria prevention method that can be used during the first trimester of pregnancy, when both the mother and the child are at risk. IPTp is not appropriate at that time because most antimalarial drugs are contraindicated (due to probable foetal toxicity) and most women do not attend ANC checks. In addition to their additive effect, the ITN and IPTp approaches have been suggested to be synergistic [4].

When should IPTp be given to women?

The first dose should be administered during the first ANC visit after quickening, ensuring that the woman is in her second trimester of pregnancy, according to the WHO. At least one month should pass between IPTp doses. The best time to deliver them is still unknown because it is entirely dependent on the woman's ANC visits and frequency. Women should be protected as much as possible throughout late pregnancy, when both foetal growth and malaria's damaging effects are at their peak. Even if no ANC visits are scheduled throughout the first two trimesters, IPTp may be beneficial in the final month of pregnancy.

Because the infant is still growing and needs to be safeguarded, there are no significant contraindications to taking SP close

***Correspondence to:** Kevin Smith, Directorate of Research and Innovation, Mount Kenya University, P.O. Box 342, 01000, Thika, Kenya, E-mail: smithkL@gmail.com

***Received:** 11-May-2022, Manuscript No. AABMCR-22-63621; **Editor assigned:** 12-May-2022, PreQC No. AABMCR-22-63621(PQ); **Reviewed:** 21-May-2022, QC No AABMCR-22-63621; **Revised:** 25-May-2022, Manuscript No. AABMCR-22-63621(R); **Published:** 27-May-2022, DOI:10.35841/aabmcr-6.3.113*

***Citation:** Smith K. Intermittent preventive treatment in pregnant women for prevention of malaria. Biol Med Case Rep. 2022;6(3):113*

to birth. Sulphonamides were reported to increase the risk of kernicterus in new-borns in one investigation; however this has not been confirmed.

The timing of drug distribution should be addressed while evaluating IPTp efficacy. If critical moments are identified, women may be pushed to attend ANC checkups at certain periods [5]. More basic research is needed to determine the appropriate dose interval by explaining how IPTp works (i.e., whether it has a preventive or therapeutic impact) and providing pharmacokinetic data for SP in pregnant women.

References

1. Hay SI, Guerra CA, Tatem AJ, et al. Urbanization, malaria transmission and disease burden in Africa. Nat Rev Microbiol. 2005;3(1): 81-90.
2. Brabin B. An assessment of low birthweight risk in primiparae as an indicator of malaria control in pregnancy. Int J Epidemiol. 1991;20(1):276-83.
3. Parise ME, Ayisi JG, Nahlen BL, et al. Efficacy of sulfadoxine-pyrimethamine for prevention of placental malaria in an area of Kenya with a high prevalence of malaria and human immunodeficiency virus infection. Am J Trop Med Hyg. 1998;59(5):813-22.
4. Steketee RW, Nahlen BL, Parise ME, et al. The burden of malaria in pregnancy in malaria-endemic areas. Am J Trop Med Hyg. 2001;64:28-35.
5. Bouvier P, Breslow N, Doumbo O, et al. Seasonality, malaria, and impact of prophylaxis in a West African village. II: Effect on birthweight. Am J Trop Med Hyg. 1997;56:384-89.

Citation: *Smith K. Intermittent preventive treatment in pregnant women for prevention of malaria. Biol Med Case Rep. 2022;6(3):113*