Medical Xpress

Adverse outcomes not improved in novel screen-and-treat program for malaria in pregnancy

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Credit: CDC

A novel strategy to screen pregnant women for malaria with rapid diagnostic tests and treat the test-positive women with effective antimalarials does not lower the risk of adverse pregnancy outcomes compared with treating all pregnant women with the malaria preventive sulfadoxine-pyrimethamine (SP) in sub-Saharan Africa, according to an

open label randomized trial published this week in *PLOS Medicine* by Feiko ter Kuile, of the Liverpool School of Tropical Medicine, and colleagues.

During pregnancy, undetected infection with malaria parasites can lead to maternal anemia, low birthweight, and fetal loss. In areas where malaria is endemic, the World Health Organization recommends treating pregnant women with SP, but in some areas, more than 90 percent of Plasmodium parasites are resistant to SP. In the new study, the researchers compared this standard of care to a screening approach where pregnant women are tested approximately monthly for malaria using rapid diagnostic tests and treated with a different drug, dihydroartemisinin-piperaquine (DP) only if they test positive for the parasite.

The study, which randomly assigned 1873 HIV-negative pregnant women at three sites in Malawi to receive either strategy, found that the risks of adverse birth outcomes, at 29.9 and 28.8 percent, was similar in the two groups. However, the prevalence of malaria at delivery was higher in the rapid screening and DP group, at 48.7 percent, compared to 40.8 percent in the SP group (relative risk=1.19 [95% confidence interval 1.07-1.33], p=0.007), meaning an additional 8 out of every 100 pregnancies would be affected by malaria using this approach compared to broad prevention using SP. Moreover, the rate of fetal loss was 2.6 percent, double the rate of 1.3 percent seen among women who took intermittent doses of SP (relative risk=2.06 [1.01-4.21], p=0.046). The current results, however, may not hold true in all areas because risk of malaria transmission varies according to location, as does parasite resistance to drugs. In addition, the study design did not investigate the outcomes of using monthly DP for prevention without coupling it to screening.

"These results suggest that [intermittent screening and treatment with

DP] may not be a suitable alternative strategy to replace [intermittent preventive therapy with SP] in settings similar to ours and may even predispose to unfavorable pregnancy outcomes in these settings," the authors say.

More information: *PLOS Medicine*, journals.plos.org/plosmedicine … journal.pmed.1002124

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