

Preventing Malaria in Pregnancy: "Why bother?"

Depending on which part of the world you reside in, the sickness *malaria* may be familiar or unfamiliar to you. Malaria is an infection of the human red blood cells by any of four species of the *plasmodium* parasite. It is endemic to the tropical regions of the world, with Africa suffering the highest infection rates in the world. The parasite is transferred into the host's bloodstream when he or she is bitten by a mosquito carrying the parasite. Early symptoms of malaria include muscle aches and pains, nausea, and fever. Full blown malaria may manifest symptoms like dizziness, lethargy, loss of appetite, hallucinations and death. Early symptoms should therefore be brought to the attention of your health provider.

For women infected during pregnancy, malaria is associated with adverse effects on fetal growth, maternal anemia and a high risk of infant and maternal mortality. The African Health Observatory estimates that maternal mortality from anemia is approximately 10,000 deaths annually. In sub-Saharan Africa, infant death from malaria is estimated to be between 75,000 - 200,000 every year. Various interventions have been carried out by the World Health Organization (WHO) to curb this negative trend. Currently, the use of insecticide treated mosquito nets, intermittent preventive treatment during antenatal clinics at local health centers, and prompt case treatment when malaria is diagnosed during such antenatal visits are methods of control being implemented with significant successes recorded.

The drawbacks observed are the lack of health centers in several rural areas and the difficulty encountered by expecting mothers in attending their clinics. The unfortunate result is that several expecting mothers are beyond the reach of available medical intervention using the current methods. What do we do about it? One way that this hurdle has been overcome is by the introduction of a modified approach called Community Scheduled Screening and Treatment (CSST) which uses mobile Community Health Workers (CHW). CSST leverages on the presence of CHW in remote areas to provide free monthly malaria treatment to pregnant women in rural areas while also providing a support system which encourages early and sustained antenatal clinic attendance. CHW, who are trained for this duty, also ensure that the malaria treatments given to women are taken in line with the prescribed dosage.

Between November 2013 and November 2015, the CSST method was implemented in three West African Countries, (Benin, Burkina Faso and, The Gambia). Two groups of expecting mothers from randomly selected villages were compared in each country. In one group, CSST was implemented while in the second group there was no implementation (control group). In Burkina Faso major results were observed in the trial study when the two groups of pregnant women were compared. It was observed in the CSST group that women registered earlier for the antenatal clinics, compared to the control group. This observation was conditional on the pregnant women in each health center compared belonging to the same group. The study also showed that expecting mothers under the CSST program were more likely to attend antenatal clinics for health checks beyond the receipt of malaria prevention treatment at scheduled or unscheduled times when compared to the control group.

From the study we see that an expecting mother who registered early for the antenatal clinic had a longer period of her gestation time under care. An implication of this was that she received a longer support period under the care of the CHW. Another implication of early registration was that the risk window in which she would be vulnerable to malaria during pregnancy was shorter increasing her chances of having a malaria free pregnancy experience. These effects were not observed in Benin and The Gambia.

In conclusion, the CSST approach gives us an opportunity to reduce the risk window of malaria during pregnancy. At an expanded level of implementation, CSST using CHW has great potential to reduce malaria prevalence during pregnancy and is an approach which should be explored further. A malaria-free pregnancy experience can be achieved with this simple, targeted approach which maximizes the use of existing health structures and integrates its implementation with an already established health service for pregnant women - antenatal clinics.