

Background:

Malaria is a parasitic infection of public health concern. It is a significant cause of maternal and infant morbidity and mortality, especially in children under five years of age and pregnant women in Kenya and sub-Saharan Africa at large. This study aimed at identifying the determinants associated with the uptake of malaria preventive measures in pregnancy, hereon, Insecticide Treated Net and Intermittent Preventive Treatment with Sulfadoxine Pyrimethamine (ITN and IPTpSP).

Methods:

This is a cross-sectional study that involves secondary data analysis of the 2015 Kenya Malaria Indicator Survey (MIS) using a total of 2455 women between the ages of 15 to 49 years. To be included in this study, the women needed to have had a history of either being pregnant or having given birth within five years before the primary survey. The following methods of survey adjusted data analysis were used: descriptive analysis was used to determine the extent of the uptake of ITN and IPTpSP in pregnancy; multinomial logistic regression was used to identify the determinants of use of ITN and IPTpSP in pregnancy.

Results:

During pregnancy, ITN use was 60.5%. The use of at least one dose of IPTpSP was 56.6%, the use of three or more doses of IPTpSP was 24.8%, and only 37.1% of the study participants used both ITN and IPTpSP during pregnancy. The sex of the head of household (RRR 0.49, CI 0.29-0.84, $p=0.010$), the household-level head-level education (RRR 2.09, CI 1.17-3.72, $p=0.013$), and parity (RRR 0.48, CI 0.26-0.87, $p=0.015$) were significant determinants of ITN use. The number of Antenatal Care Clinic visits during pregnancy (RRR 52.91, CI 10.59-264.66, $p<0.001$), whether the women live in an urban or rural place and living in the different malaria endemicity (RRR 0.46, CI 0.28-0.76, $p=0.003$) were also significant predictors of IPTpSP uptake. The significant predictors of combined use of ITN and

IPTpSP during pregnancy were the number of antenatal care visits (RRR 8.60, CI 2.18-33.87; $p=0.002$), the household head highest level of education (RR 2.06, CI 1.15-3.69; $p=0.016$), the household head sex (RRR 0.62, CI 0.41-0.93; $p=0.023$), and living in endemic (RRR 6.06, CI 3.10-11.83; $p<0.001$) and low-risk (RRR 0.18, CI 0.10-0.34; $p<0.001$) malaria endemicity areas.

Conclusion:

Despite the efforts put by the government and partners in the health sector in the fight towards malaria in pregnancy, the uptake of malaria preventive measures is still below 80% for both ITN and IPTpSP during pregnancy in Kenya. There is minimal available literature in this regard to guide policymakers to target ITN and IPT uptake, especially in moderate to high malaria risk areas. Further qualitative research needs to be geared towards understanding the influence of these factors in Kenya and other settings.

Keywords: *malaria in pregnancy, determinants, ITN, IPTpSP, multinomial logistic regression, Kenya*