

Background: Insecticide-treated bed net (ITN) use has been proven as the most effective vector control measure for reducing malaria transmission in endemic areas. However, the benefits derived from ITN's to certain sectors of the population like women 15-49 years in preventing malaria among children under-5 is often undermined by low levels of ITN use. The reasons for low maternal use of ITN's are not well understood.

Objective: To establish maternal use of ITN's in the prevention of malaria among children under the age of 5 years in Budaka district, Uganda. The specific objectives were to determine individual, health system, and intra-household factors contributing to maternal use of insecticide treated bed-nets.

Methodology: A descriptive cross-sectional survey was carried out using both quantitative and qualitative approaches. Using multi-stage random sampling design, primary data was generated from 677 women aged 15-49 years. Analysis was done using Excel spread sheet and STATA version 12 statistical package. Pearson's chi squared was used at bivariate analysis. Multiple logistic regression analysis was carried out to determine the predictors of maternal ITN use. The strength of associations was established by determining odds ratios.

Results: The study findings revealed that 40% of women 15-49 years in Budaka use insecticide treated nets (ITN). Women 15-49 years who share a sleeping room with an inhabitant of HH other than their spouse were 0.34 times less likely to use a treated mosquito net (95% CI 0.24-0.47; $P < 0.001$). Predictors of ITN use in Budaka district are maternal age, fair ITN washing practice (OR 20.42 95% CI 8.96-46.57; $P < 0.001$), having never washed the mosquito net owned (OR 0.78 95% CI 0.02-0.29; $P < 0.001$), rarely washing mosquito owned (OR 6.5 v95% CI 1.50-28.17; $P = 0.012$), sometimes washing mosquito net owned (OR 7.8 95% CI 2.00- 30.48; $P = 0.003$), having poor net washing practice (OR 3.99 95% CI 1.41-11.32; $P = 0.009$), always washed the

mosquito net owned (OR 0.32 95% CI 0.12-0.88; $P_v=0.027$), sometimes using a mosquito net during the most recent pregnancy (OR 0.21 95% CI 0.073-0.61; $P_v=0.004$), receiving a mosquito net through door-to-door (OR 4.36 95% CI 1.16-16.45; $P_v=0.03$) and the health unit/ antenatal channels (OR 5.55 95% CI 2.35-13.09; $P_v<0.001$), having a person treated or diagnosed for malaria in the past (OR 0.14 95% CI 0.02-0.78; $P_v=0.025$), the HH member diagnosed or treated for malaria being a pregnant woman (OR 7.07 95% CI 1.80-27.71; $P_v=0.005$), a woman 15-49 years (OR 3.51 95% CI 1.35-9.11; $P_v=0.01$) and the household having a moderate sized bed (OR 3.2 95% CI 1.50-6.71; $P_v=0.003$).

Maternal ITN use was not associated with marital status, and educational level, knowledge about malaria transmission, knowledge about malaria prevention, and the attitude towards any net, regularity of net use during pregnancy, duration of nets, and having received a message at net acquisition, HH size and duration HH member was last treated/ diagnosed with malaria.

Conclusion and recommendation: To reduce malaria transmission among children there is need for use of intensive ITN educational program, target children under 5 years to receive own ITN's during door-to-door delivery and at health units with prompt replacements before chemical barriers wane through community mobilization and sensitization.