

Abstract

Effectiveness of long lasting insecticidal nets and intermittent preventive treatment in pregnancy uptake among pregnant women attending antenatal care in five regions of Uganda

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Abstract

The US President Malaria Initiative's Malaria Action Program for District project has supported the Ugandan National Malaria Control Division to strengthen the country's Malaria in Pregnancy (MIP) program since 2017. Previous studies have documented successes in uptake of MIP prevention measures, however the programmatic linkage between these interventions and their effect on number of MIP cases is still limited. To investigate the effect of MIP preventative approaches in Uganda relative to trends of MIP cases, this study investigated the relationship between the number of MIP cases and the uptake of prevention interventions among pregnant women attending antenatal care. The study assessed health facility data in the projects five regions between January 2017 and December 2019. Data on MIP cases, uptake of three or more doses of intermittent preventive treatment in pregnancy (IPTp3+), and women receiving long lasting insecticidal nets (LLINs) as a proportion of those attending the first antenatal care visit (ANC I) was analysed. IPTp3+ increased from 5% in 2017, to 37% in 2018, to 64% in 2019. Similarly, those receiving a LLIN at ANCI increased from 48% to 66% to 79%. Correlation analysis showed plausible trends between increasing IPTp3+ rates and decreasing MIP cases in four regions (Bunyoro ($r=-0.04$, $p=0.910$), Rwenzori ($r=-0.25$, $p=0.425$), Kampala ($r=-0.13$, $p=0.693$) and Masaka ($r=-0.8$, $p=0.002$)). In these same regions, correlation trends between increasing LLIN uptake at ANC I and decreasing MIP cases were also seen (Bunyoro ($r=-0.25$, $p=0.419$), Rwenzori ($r=-0.37$, $p=0.240$), Kampala ($r=-0.28$, $p=0.359$) and Masaka ($r=-0.61$, $p=0.034$)). However, in West Nile an increase in IPTp3+ and LLIN uptake was associated with an increase in the number of cases ($r=0.71$, $p=0.009$ and $r=0.5$, $p=0.097$ respectively). Efforts to increase IPTp3+ and LLIN provision at ANC likely

reduce cases of MIP. Behaviour change communication to drive early and adequate ANC coverage, quality provision of IPTp3+ including directly observed therapy, LLIN use and care, as well as strong supply chain and data systems should be maintained and scaled up.