CASE STUDY

Improving screening and management of malaria in pregnancy during first Antenatal Clinic Visit at Rongo Sub-County Hospital, Migori, Kenya

Summary

Rongo Sub-County Hospital formed a work improvement team (WIT) in November 2016 to improve malaria case management. They reviewed their malaria data to look for gaps for the first time and quickly saw that pregnant women were not routinely getting screened for malaria at their first antenatal care (ANC) visit which was compounded by poor documentation for those who were screened. The WIT developed a number of changes to test, which included: on the job training of staff on malaria in pregnancy, development and use of a malaria in pregnancy cascade tool, redesigning patient flow, client health talks on effects of malaria in pregnancy and importance of screening, and case management. Through these efforts, within 6 weeks, 100% of their first ANC visits had been screened for malaria. The team has been able to maintain this performance to date.

Background

Rongo Sub-County Hospital in Migori County provides preventive and curative services through outpatient and inpatient departments. There are an estimated 1,160 pregnant women within the facility catchment area. An average of 60 first ante-natal care (ANC) clients are attended to monthly in the Maternal Child Health (MCH) Clinic.

The USAID Applying Science to Strengthen and Improve Systems project (ASSIST), with funding from the President’s Malaria Initiative (PMI), began supporting quality improvement (QI) with a focus on screening and management of malaria in pregnancy in Migori County in November 2016. Rongo Sub-County Hospital is a high malaria case load facility and was selected, along with nine other facilities, for initial implementation of malaria QI within the county. ASSIST is currently implementing malaria QI activities in 45 facilities across five counties in Kenya.

Implementation

The hospital formed a work improvement team (WIT) in November 2016 following a training from ASSIST on QI and malaria case management. The WIT included the nursing officer in charge of the MCH Clinic, nurses within the department, clinician in charge of the out-patient department, the facility pharmacist, laboratory technologist, and the two staff from health records department. The WIT was supported by a QI coach who is a clinician within the facility.

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In order to identify gaps, the team, together with their QI coach and ASSIST QI Officer, reviewed their data on screening of pregnant women at first ANC visit for malaria; testing for those who are symptomatic during subsequent visits; and treatment of confirmed malaria cases. They realised that screening of pregnant women for malaria during first ANC visit was low and documentation of malaria screening for those who had been screened was poor. Mothers who were symptomatic were also referred to the out-patient department (OPD) for clinical consultation then to the laboratory for testing which led to drop outs along the cascade.

The WIT conducted a fishbone analysis the first week of January 2017 to determine root causes of these gaps and developed changes to test to improve documentation, screening, and treatment of confirmed malaria cases (Figure 1). They began testing changes the following week.

**Figure 1: Fishbone diagram used for root cause analysis by WIT at Rongo Sub-County Hospital**

![Fishbone Diagram](image)

The WIT decided their first change would be to have the coach provide on the job training and mentorship to the staff in the facility on malaria screening and case management in pregnancy and documentation of results in the ANC register.

The pharmacist provided mentorship on commodity forecasting and quantification and timely ordering of rapid diagnostic tests (RDTs) and antimalarials to prevent any stock outs.

To increase client awareness, the facility began discussing the effects of malaria in pregnancy and the importance of screening, testing, and treatment for malaria during the morning health talks at the MCH Clinic.

The WIT redesigned the patient flow to reduce leaks along the cascade. This ensured that the symptomatic pregnant women were attended to at the ANC clinic instead of being referred to the OPD.
The team also developed a cascade template that would be used to ensure and monitor if all first ANC clients were screened symptomatic cases tested and confirmed cases treated appropriately (Figure 2). They monitored their data on a weekly basis and began to see improvements.

**Results**

Since the WIT began testing changes, the number of first ANC women who are screened for malaria has greatly improved (Figure 3). 100% of all first ANC clients are now screened for malaria. Three pregnant women have been confirmed to have malaria since the team began their QI project and all have been treated as per the national guidelines.

**Figure 2: Malaria in pregnancy identification and treatment cascade template created by the WIT**

**Figure 3: Malaria screening among first ANC visits at Rongo Sub-County Hospital, Migori County (Dec 2016-Feb 2017)**
Lessons Learned

The Rongo WIT attributes their success to teamwork and support from the hospital administration. The WIT is very clear that the marked improvement in malaria screening and case management among pregnant women at the facility required a team effort from all departments and hospital leadership. Consistent data reviews are also necessary and teams need to meet frequently to discuss gaps and changes. The WIT also recognizes that staff need to be open to change, embrace the malaria case management guidelines, and stay up to date on technical issues through regular continuing medical education.

Next Steps

While it is mandatory to screen for malaria during ANC visit in the lake endemic region, there are challenges with access particularly in high volume (tier 3 onward) facilities. High volume facilities have user fees that cut out eligible clients who cannot afford them. In the lower tier facilities, lack of operational laboratories or lack of malaria RDTs prevent them from consistently screening women for malaria during ANC. These are some of the challenges to be surmounted. However, encouraged by what they have achieved, the WIT is exploring other areas of care they can improve together. They are now exploring new malaria in pregnancy indicators for improvement.

Changes tested

- Design and use of a malaria in pregnancy cascade tool
- On job training of health workers on malaria in pregnancy
- Timely ordering of RDT’s and antimalarials
- Morning health talks with women