

Lessons learned: Malaria Case Management training in Madagascar

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Abstract

To help scale up high-quality diagnosis and case management services for malaria and other febrile illnesses, MalariaCare is supporting Madagascar's National Malaria Control Program (NMCP) to conduct clinical case management training in the Menabe region, with training sites in Morondava, Belo, Miandrivazo and Mahabo. Training materials were aligned with NMCP guidelines, with emphasis on orienting participants to Madagascar's updated policy around first-line treatment (three days of ACT), use of artesunate injection for severe malaria, as well as clinical and diagnostic practices. Participants were assessed using pretests and posttests. Of the 55 participants, 71% were nurses and 29% were physicians. Overall, 85% of participants stated that the training met their expectations. 87% of participants in Morondava improved their knowledge and skills after training - with an average increase of 16 percentage points between pretest and posttest. Similarly, 80% of participants in Belo improved their scores by an average of 17 percentage points, 94% of participants in Miandrivazo increased their scores by an average of 18 percentage points, and 93% of the participants in Mahabo increased their scores by an average of 18 percentage points. Average pre and posttest scores (out of 30) were 20 and 25 for Morondava; 18 and 23 for Belo; 19 and 25 for Miandrivazo, and 20 and 25 for Mahabo. Participants will use the knowledge gained from this training to improve the quality of diagnostic and treatment in their communities, aimed at reducing malaria related morbidity and mortality rate in remote areas of Madagascar.

One Year of Community Led Larviciding: Bioko Island

Background

Larviciding has historically recorded success in vector control, known to be effective in urban setting where breeding sites are generally and easily assessable. This study is aimed accessing acceptability and implementation of a community led larviciding in a rural setting.

Methods

Community Agents (ACPs) were identified and recruited in 13 communities with the help of the community leaders; trained and provided materials.

At baseline, the entomology team and the ACP identified and characterized existing habitats; type of habitat, existence of larvae and the stages of larvae.

Weekly, the ACPs were expected to visit and treat all habitats that the owners consented and identify and treat new ones. The leader of the ACPs kept a register of attendance.

The entomology team visits the community on the same day of the week but at a later time to monitor the activities of the ACP and recorded; if each habitat has been treated, habitats are categorized as being old or new, the stages of larvae and updated the ACP's attendances register. Periodically, the ACPs were given a feedback on their activities at a community meeting.

Result:

At baseline there were 1100 habitats in the 13 communities, about 64.0% of the habitats were in only 2 communities, there were 92 ACPs.

About 83.2% of the habitats were household water containers, 4.6% car tracks, and the drainage system being 4.5%. In all 2.9% of the habitats were anopheles positive and 38.5% were positive for another culicine mosquitoes.

Weekly an average of 1376 habitats were to be treated, 25(1.9%) were new, 82(6.0%) were not treated because the owners rejected treatment.

The weekly average of habitats treated by ACPs was 76.0 %(std 7.8%), the average attendances to treatment activities is 82.0%(std 9.2%)

Conclusion:

Larviciding requires 100% treatment of all known habitats to be successful. The degree of refusal to accept larviciding and the non-attainment of the 100% coverage by the ACPs suggest community led larviciding needs a closer look at regards community entry and how the ACPs were chosen

Relationship between the prevalence of parasitemia in pregnant women and children: Bioko Island Malaria Indicator Survey 2008-2015

Background

Pregnant women have been one of the main targets in the efforts to control malaria and in some settings they are routinely screened and treated or provided anti malaria prophylaxes and also provided ITNs. Studies have indicated that they are more likely to have detectable malaria due to higher parasite densities.

Prevalence in children (2-14 years) is one of the main standard measures used to monitor the outcomes and impacts of malaria control programs in moderate to high transmission areas.

Pregnant women attend ANC and blood samples are routinely taken and could be used to screen for parasitemia, allowing for an insight into the monthly variation of the incidence of malaria without need for extra sampling.

Knowing the relationship of the prevalence of malaria in children and pregnant women could have far reaching implication the various control interventions in terms of timeliness of data and the implementation of the routine MIS.

Methods

Using 8 years data of the annual MIS Bioko islands of Equatorial Guinea from 2008-2015, the yearly prevalence of parasitemia in children and pregnant women was calculated and Pearson's product-moment correlation was run to assess the relationship...

Results:

Prevalence among children is relatively higher, there exist similar trends in the two groups; There was a very strong positive correlation between prevalence of the two groups $r(6) = 0.909, p < .002$.

Conclusion

ANC attendees can be used as a sentinel group to monitor malaria prevalence because they are readily available and show similar trends with the children whose malaria prevalence is a standard measure to estimate malaria endemicity. More importantly, there will be timely and seasonal data for decision making.

Title: A comparison of the effectiveness of Behavior Change Communication (BCC) plus repair kits and BCC alone in promoting repair of long-lasting insecticidal nets in Benin

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We compared strategies to increase net durability in 2014. Three groups of 300 households (HH) were randomly assigned to two intervention arms and one control arm. Arm 1 received behavior change communication (BCC) messages; Arm 2 received BCC plus a net repair kit; Arm 3 was the control. Twelve villages in southeastern Benin were enrolled. Community health workers delivered BCC messages about preventing damage to long-lasting insecticidal nets (LLINs) caused by fire or sharp objects, and promoting repair as soon as holes appeared. Data were collected from all HH at 4-5 month intervals for 20 months. Net damage was measured using the WHO Proportional Hole Index (pHI). At 20 months the overall HH dropout rate was 21% (17% for Arm 1, 23% for Arm 2 and 24% for Arm 3). Only one of five control HH (Arm 3) reported hearing messages about net care or repair. Net attrition (LLIN not available to sleep under) was significantly lower in Arms 1 and 2 (9%), than in Arm 3 (16%) ($p < 0.0001$). LLIN use among children under five years was higher among those receiving BCC and repair kits (83%) than those receiving only BCC (73%) ($p = 0.02$). Intervention Arms 1 and 2 reported more net use (73% and 83%, respectively) than the control arm (63%) ($p < 0.0001$). Frequent LLIN washing (>1 wash/3 months) resulted in reduced net integrity in the control group. Reduced insecticide activity was also more common in the control arm (78%) than Arm 1 (69%) and Arm 2 (56%) ($p < 0.0001$). The proportion of nets without holes was significantly higher in Arm 2 (53%) than in Arm 3 (38%) ($p = 0.019$), but no difference was observed in the prevalence of holes between Arm 1 (41%) and the control arm (38%). Nets in Arms 1 and 2 showed more signs of repair (57% and 58%, respectively) than controls (22%) ($p < 0.0001$). The proportion of nets with large and/or numerous holes ($pHI > 63$) was significantly lower in Arm 1 (13%) and Arm 2 (9%) than in Arm 3 (36%) ($p < 0.0001$). All LLINs in all three arms had good insecticide retention measured by x-ray fluorescence and WHO cone test. BCC messaging significantly increased care and repair

practices in intervention villages in Benin. Whether these practices can prolong LLIN durability requires further study.