Impact of a behavior change communication program on net durability in eastern Uganda

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Introduction

• Malaria prevention with long-lasting insecticidal nets (LLIN) has seen a tremendous scale up in sub-Saharan Africa in recent years 1
• The importance of net durability is becoming a critical factor in understanding the frequency of net replacement
• There is a paucity of data on how net maintenance influences net durability
• A study was conducted to assess the effect of a net care and repair behavioural change communication (BCC) intervention on net durability

Methods

Study site

• The study was conducted in one district in eastern Uganda with a district in the neighboring region serving as a comparison
• The two districts, which are separated by a lake, are culturally similar. However, different languages are spoken and they are served by different radio stations

Intervention

• The BCC campaign focused on benefits of net care, methods of net repair, net washing and net hanging practices
• Target audiences were mothers and primary school children
• The intervention was delivered through radio spots, community mobilization and school events
• Both districts received LLINs through a mass campaign

Surveys and data analysis

• Two-stage cluster household surveys conducted at baseline and at 18 months (end line) in both districts 2

Results

• Respondents in the intervention district had a 31.2% greater exposure to net care and repair messages than those living in the comparison district (Figure 3)
• Increased exposure was positively associated with attitudes regarding net care and repair (p<0.001)
• Respondents in intervention district had overall increased knowledge on net care and repair practices

Conclusions

• The intensive BCC program resulted in increased knowledge and attitudes regarding net care and repair and increased repair behaviour. However, this did not translate in improved net durability
• Overall net survival was below the expected 3-5 year survival thus net replacement campaigns recommended in this region
• More research is needed to understand better the impact of net care and repair on net durability

Table 1: Condition and repair

|                | Comparison | Intervention | p-value |
|----------------|------------|--------------|---------|
| N              | 718        | 535          |         |
| Any repairs, % | 48.0       | 56.4         | 0.179   |
| No. of full repairs, mean | 0.6 | 1.8 | 0.001 |
| (95% ci)       | (0.5-0.8)  | (1.4-2.2)    |         |
| No. of partial repairs, mean | 0.7 | 1.5 | 0.015 |
| (95% ci)       | (0.5-0.8)  | (0.9-2.2)    |         |

Proportionate hole index (pHI), median

|                | Comparison | Intervention | p-value |
|----------------|------------|--------------|---------|
| N              | 718        | 535          |         |
| Overall        | 830        | 837          | 0.045   |
| Serviceable (pHI<0.642) | 55.4 | 42.2 | 0.034 |
| Too torn (pHI>0.642)   | 44.7      | 57.8         |         |

Net survival

21 months post distribution

56.6 40.9 0.007

Figures:

1. Study Areas in Eastern Uganda
2. Timeline of campaign, intervention and surveys
3. Exposure to net care and repair messages
4. Net survival

References and footnotes:

1 WHO, Global Malaria Program. World Malaria Report. 2013
2 Ethical approval was obtained from both Uganda National Council of Science and Technology (UNCST) and John Hopkins University (JHU)
3 WHO, Guidelines for monitoring the durability of long-lasting insecticidal mosquito nets under operational conditions, 2011

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Acknowledgements
This study was funded under the Networks project, made possible by the generous support of the American people through the US Agency for International Development under the President’s Malaria Initiative under cooperative agreement GHS-A-00-09-00154.

LB-3245