When and how to change strategies in a malaria epidemic? Aweil, South Sudan, 2016

Carrie Teicher and Aditya Nadimpalli

Introduction

The aim of the MSF project in Aweil, South Sudan is to reduce high rates of pediatric and maternal mortality, mainly by supporting the Aweil State Hospital. Malaria is a major contributor to morbidity and mortality with a seasonal peak in August /September. Over the last years there has been a notable increase of severe malaria cases. Two surveys have been conducted to contribute elements for future intervention strategies.

Methods

We report the results of two retrospective surveys: the first survey consisted of a chart review of children admitted to Aweil Hospital with severe malaria between August and September 2016. The second, a retrospective, population-based household survey, was conducted in March 2017 with a recall period starting from July 2016. It consisted of two strata: urban and rural. In each stratum, a cluster sampling strategy was used.

Results

In the chart review survey, 2013 patients were included; the median length of admission was less than 2 days and case fatality was 2.3%. The majority of patients (42%) came from Aweil Town and an additional 23% came from Aweil East (a rural community). The second survey (retrospective, population-based household) assessed health-seeking behavior in 2875 households including 10,022 children less than 15 years. Good knowledge of malaria across both rural and urban strata was found.

The majority of those assessed were seeking care at a health facility as their first choice: in Aweil Town 78.0% sought care at the hospital, whereas in rural Aweil (including Aweil Centre, East, West, North and South counties), the majority went to a primary health care center (PHCC) (54.8%) or primary health care unit (PHCU) (36.2%). Respondents in rural areas were more likely to find no drugs available to treat malaria (13.7% vs. 6.1%). Respondents cited physical access as a barrier to care; cost was also universally felt to be a barrier (73.5%).

Crude mortality in Aweil Town was 0.24/10,000/day (CI95% 0.14-0.41) versus 0.53/10,000/day (CI95% 0.43-0.65) in rural Aweil. In Aweil Town, under-five mortality was 0.37/10,000/day (CI95% 0.20-0.76) versus in rural Aweil, where the mortality among under-5 year olds was 0.9/10,000/day (CI95% 0.71-1.16), with a peak in August and September at 1.1/10,000/day (CI95% 0.69-1.7) and 1.3/10,000/day (CI95% 0.93-2.0), respectively.

Conclusions

Future intervention strategies should consider that access to the hospital is affected by patient proximity. The results of this study show that overall mortality was higher in rural Aweil than in its urban counterpart; rural inhabitants usually sought care in primary health facilities, which were often subject to drug stock-outs. From an intervention standpoint, the habit of seeking care at health facilities as a first choice can encourage facility-based decentralization as a promising strategy.