malaria consortium
disease control, better health

RESEARCH BRIEF

Feasibility and acceptability of extending seasonal malaria chemoprevention to children aged 5–10 years

Understanding barriers to delivering seasonal malaria chemoprevention in Massaguet district, Chad

Key messages

- Pressure from caregivers who want seasonal malaria chemoprevention (SMC) for their older children and difficulty determining a child's age result in SMC being administered to over-fives in Chad.
- The perceived feasibility of extending SMC to children aged 5–10 years is mixed among community distributors, caregivers and key informants, who stress the need for more resources.
- While extending SMC to older children is acceptable to all participant groups, key informants prioritise closing the coverage gap among under-fives before extending to older children.

Introduction

Malaria is endemic in Chad, with a prevalence of around 41 percent in 2017.[1] The World Health Organization recommends SMC for children 3–59 months in areas of highly seasonal transmission across the Sahel. In Chad, SMC involves the administration of four monthly cycles of sulfadoxine-pyrimethamine and amodiaquine (SPAQ) between July and October, coinciding with the rainy season. Routine household surveys conducted to evaluate coverage and quality of SMC delivery found that administration of SPAQ to children over 59 months appears to be common.

This study aimed to:

1. understand the reasons for administration of SPAQ to children above 59 months in Chad
2. explore the feasibility and acceptability of extending SMC to children 5–10 years.

Caregiver gives her child life-saving SMC medication in Chad

Methods

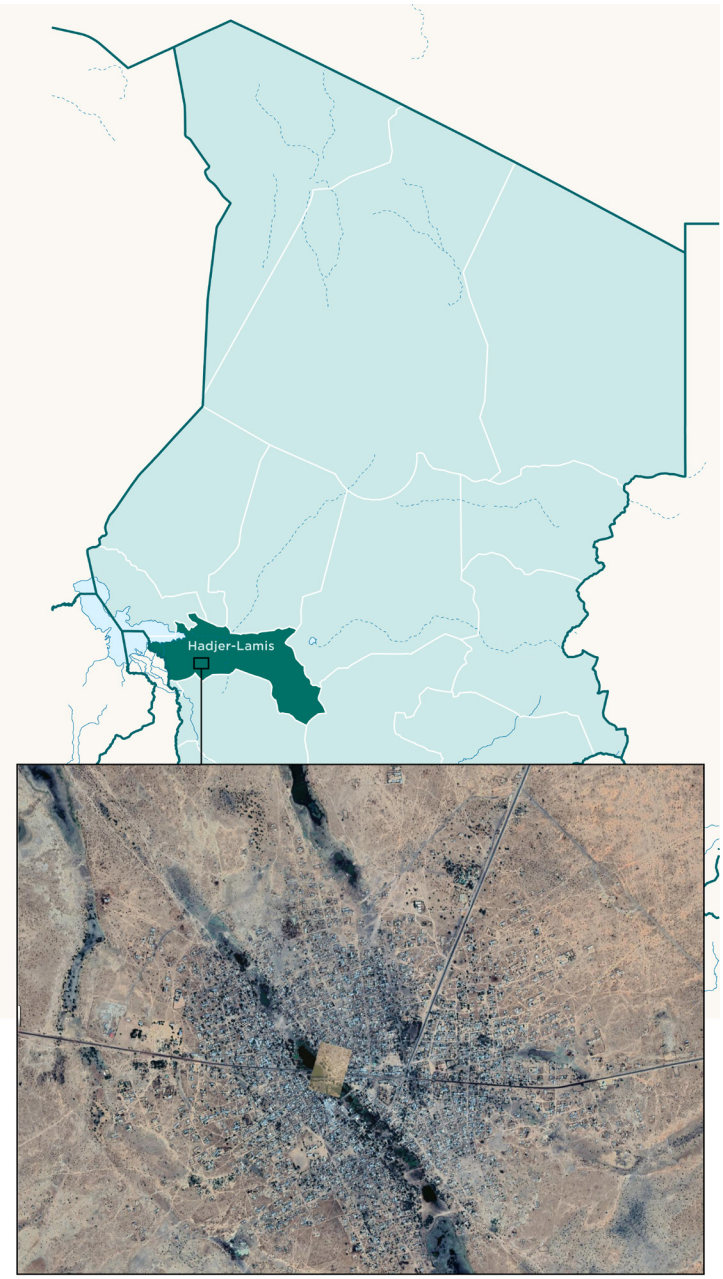
We conducted a mixed-methods study in the health district of Massaguet in 2019. The district was selected because it recorded a malaria point prevalence (proportion of the population with malaria at a single point in time) of 15.9 percent in 2018, compared to an average of 7.7 percent among SMC-eligible districts.[1] It also recorded high levels of SPAQ administration to children 5–10 years, based on household survey findings from previous SMC rounds.

We collected qualitative data through 15 key informant interviews with SMC stakeholders, who included donor representatives, programme managers, policy makers and those in charge of SMC drug distribution and supervision at different levels of the health system. We also conducted eight focus group discussions with community distributors and caregivers in three rural villages and one urban settlement.

We collected quantitative data via two types of household surveys: i) end-of-cycle surveys, using lot quality assurance sampling in SMC cycles one and three based on caregiver recall and SMC cards; ii) an end-of-round coverage survey, measuring implementation performance for cycles one, three and four. Below, we present data for children 3–59 months from the end-of-cycle and end-of-round surveys, and data for children above 59 months from the end-of-round survey.[i]

Finally, we thematically analysed the qualitative data using MAXQDA software, and analysed quantitative data in STATA and Excel.

Map of Chad illustrating the location of Massaguet district



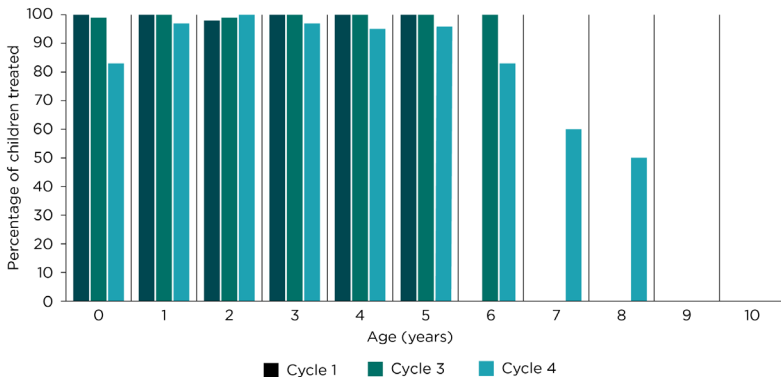
i There are important limitations of these data: the end-of-round survey is not representative of children above 59 months and did not distinguish between those eligible at the start of the round and those eligible at the time of the survey (January 2020). Thus, these data may be biased upwards.

Results

Quantitative results

While data on children over five must be interpreted with caution,[i] Figure 2 clearly shows that SPAQ was being administered to children over five in Massaguet in 2019, and that this declined as children got older. Coverage in children under five was high across all age groups and for those cycles for which data were available.

Figure 2: Seasonal malaria chemoprevention coverage by age, Massaguet[ii]



ii Due to operational reasons, end-of-cycle survey data from cycle two were unavailable.

Qualitative results

SPAQ administration to over-fives

Reasons

Several community distributors and caregivers were certain that SPAQ administration to over-fives does not occur since it is "unacceptable to share medication between children", as specified in the current eligibility criteria. Many key informants, however, had heard of SMC being administered to older age groups.

Among community distributors who acknowledged that older children do sometimes receive SMC, many identified pressure from caregivers as the main reason. They described feeling obliged to administer SPAQ to ineligible children, especially when faced with questions such as "Why do adults not receive [SPAQ] and we give it to children?". They also occasionally found it difficult to determine a child's age, resulting in their unintentionally giving SPAQ to an ineligible child. Key informants also reported social pressure imposed by caregivers, and disregard for the SMC age-eligibility criteria — but it is unclear whether these were witnessed directly or heard about second-hand.

Feasibility

Both community distributors and key informants expressed concern over logistical feasibility. Community distributors suggested that the extension would negatively affect their capacity and workload as they would have a larger number of children to cover. Some key informants echoed this concern over an increased workload and suggested extension could cause additional organisational, logistical and supply issues. Others, however, thought SMC extension "could be easily integrated into the current programme".

Overall, both key informants and community distributors stressed that, if the age range for SMC is extended, additional resources will be needed. These include an increase in the number of community distributor teams, the quantity of drugs, number of distribution days and remuneration, as well as supplying means of transport. Key informants argued for increased support and remuneration for community distributors to encourage them to "do the job well".

"We think [extending SMC to older children] is a good thing but it will be difficult for...in the sense that the number of target children will increase; the administration will take more time."

(Community distributor, Massaguet)

Acceptability

All participant groups supported the extension overall, suggesting that "malaria is ageless". Caregivers declared that "the extension will bring more health." Key informants were optimistic about the acceptability, provided there are "enough inputs" [resources]. To further promote acceptability, they also mentioned the need for greater awareness-raising activities to inform caregivers of the reasons for the programme extension and to explain the eligibility criteria. Since some participants had expressed concern over acceptability among older children themselves, awareness-raising activities could also be useful in this regard to promote SMC uptake, should the extension be implemented.

> **"Extending the administration of malaria chemoprevention will reduce the number of [malaria] cases. The older [children] will also be protected."**
>
> (Community distributor, Massaguet)

Several key informants felt that achieving full coverage of the original target population (i.e. under-fives) is a prerequisite to extending coverage to older children. Some believed SPAQ administration to older children could be problematic since, "when you administer the drugs to off-target age groups, it is to the detriment of the target group": children 3–59 months, who are most susceptible to malaria. They highlighted the need to assess the impact of SMC on older children and suggested a census of the new target population to inform planning and resource allocation.

Discussion

Given that communities have positive perceptions of the SMC intervention overall, many caregivers are keen for community distributors to administer the drugs to their older children and/or themselves. This finding is similar to Compaoré et al.'s study on SMC implementation fidelity in Burkina Faso.[2]

Stakeholders widely accepted extending SMC to older children, perceiving it as a strategy to reduce the curative

A combination of two antimalarials is used in SMC: sulfadoxine-pyrimethamine and amodiaquine, also known as SPAQ

health expenses incurred by caregivers (e.g. money spent seeking treatment). However, they raised concerns around the logistical and financial feasibility, noting a need for greater funding (e.g. remuneration and transportation) and support for community distributors (e.g. time required for distribution, and rigorous supervision). Additional training is important to help community distributors handle insistent caregivers and accurately identify a child's age — which has proved difficult in the context of prevalent malnutrition and stunting, and caregivers not knowing the child's age. Stakeholders also called for assessing the impact of SMC on older children and achieving full coverage of the current target population prior to extension.

Recommendations

SMC implementers should:

- provide additional support to community distributors (e.g. remuneration, training) and raise awareness through community engagement activities to improve adherence to age eligibility among caregivers
- close the coverage gap among the eligible target population and consider intervention sustainability prior to extending the age range.

National and state malaria programmes should:

- improve data timeliness and quality to accurately determine the extent of SPAQ administration to older children and the effect this may have on under-five coverage data.

Researchers should:

- measure the impact of SMC on older children to enable policy makers to base decisions about extending the age range on evidence
- define the correct dosage for older children and conduct research into the effect on resistance of administering SPAQ intended for younger children.

References

1. National Malaria Control Programme (NMCP), National Institute of Statistics (NIS). Enquête Nationale sur les Indicateurs du Paludisme au Tchad de 2017: ENIPT–2017. Ndjamena: NMCP, NIS ; 2018.
2. Compaoré R, Yameogo MWE, Millogo T, Tougri H, Kouanda S. Evaluation of the implementation fidelity of the seasonal malaria chemoprevention intervention in Kaya health district, Burkina Faso. PLOS One, 2017; 12(11): e0187460.

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