

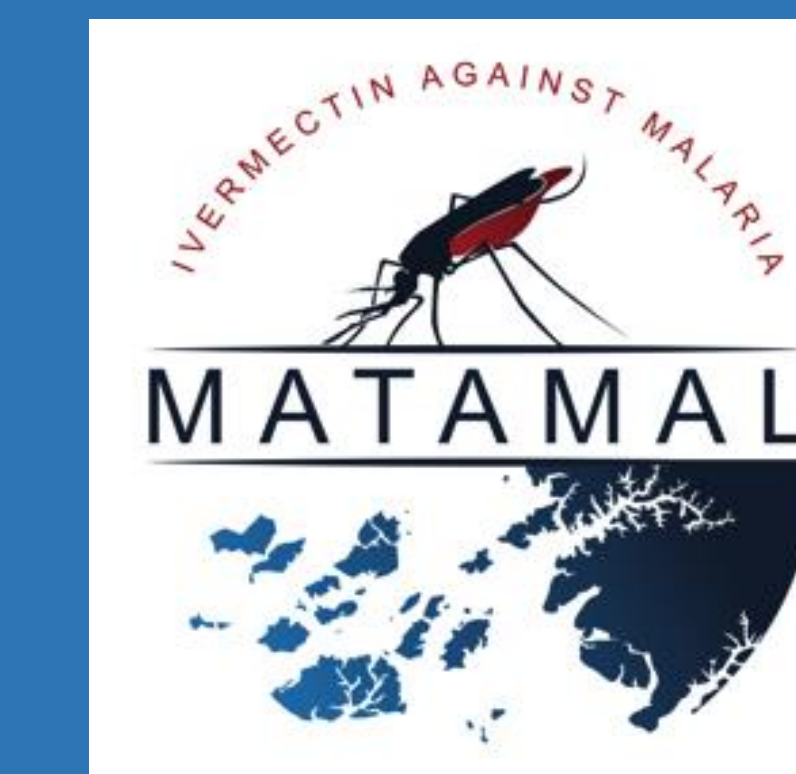


An Evaluation of Side-Effects and Factors Influencing Non-Adherence in the MATAMAL Trial, Bijagós Archipelago, Guinea-Bissau

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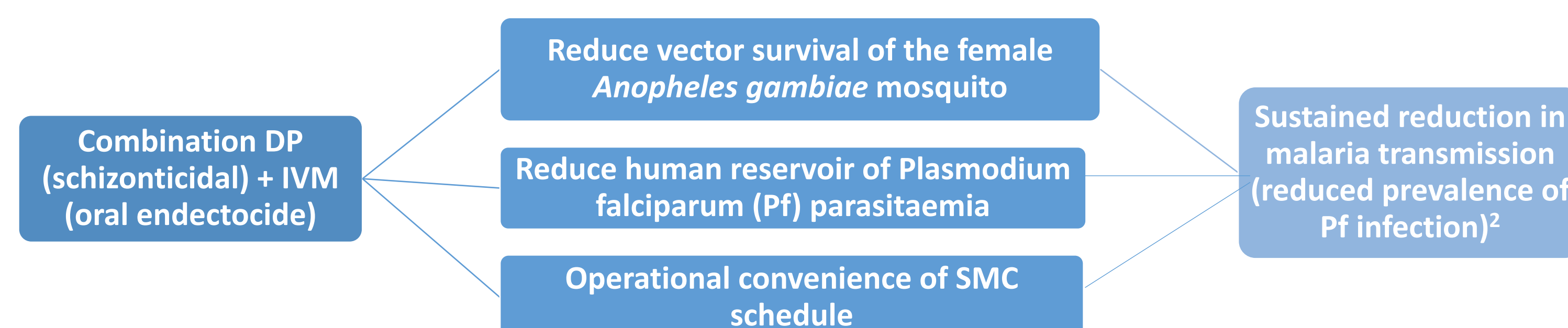


BACKGROUND

- In low-endemic settings approaching malaria elimination, the WHO recommends consideration of use of **mass drug administration (MDA)** for malaria control¹
- Large proportion of infections driven by **asymptomatic carriage**
- Study setting: Bijagós Archipelago, Guinea-Bissau

MATAMAL TRIAL

- Cluster-randomised placebo-controlled trial comparing standard artemisinin-based combined therapy (ACT) alone with dihydroartemisinin+piperaquine (DP) vs ACT with adjunctive ivermectin (IVM)
- 24 Bijagos islands (clusters) randomly assigned to control (**ACT+placebo**) or intervention (**ACT+IVM**) arms with 24,000 participants
- 3 days of tablets given in June, July, August (rainy season) annually for 2 years (2021 and 2022)



OBJECTIVE

- To profile adverse drug reactions (ADRs) and understand the factors influencing adherence to MDA
- Guide combination MDA implementation strategy and future malaria control programmes in designing specific strategies to address ADRs and maximise adherence.

METHODS

- Mixed methods study in Kriole nested within MATAMAL
- Inclusion criteria as per MATAMAL trial
 - Initial **focus group discussion (FGD)** with community leaders and field staff
 - Subsequent **population-based cross-sectional survey** assessing adverse drug reactions (ADRs) and factors including MATAMAL trial participation to 2021 MDA collected on Open Data Kit (ODK)
 - Quantitative data analysed in Stata v17

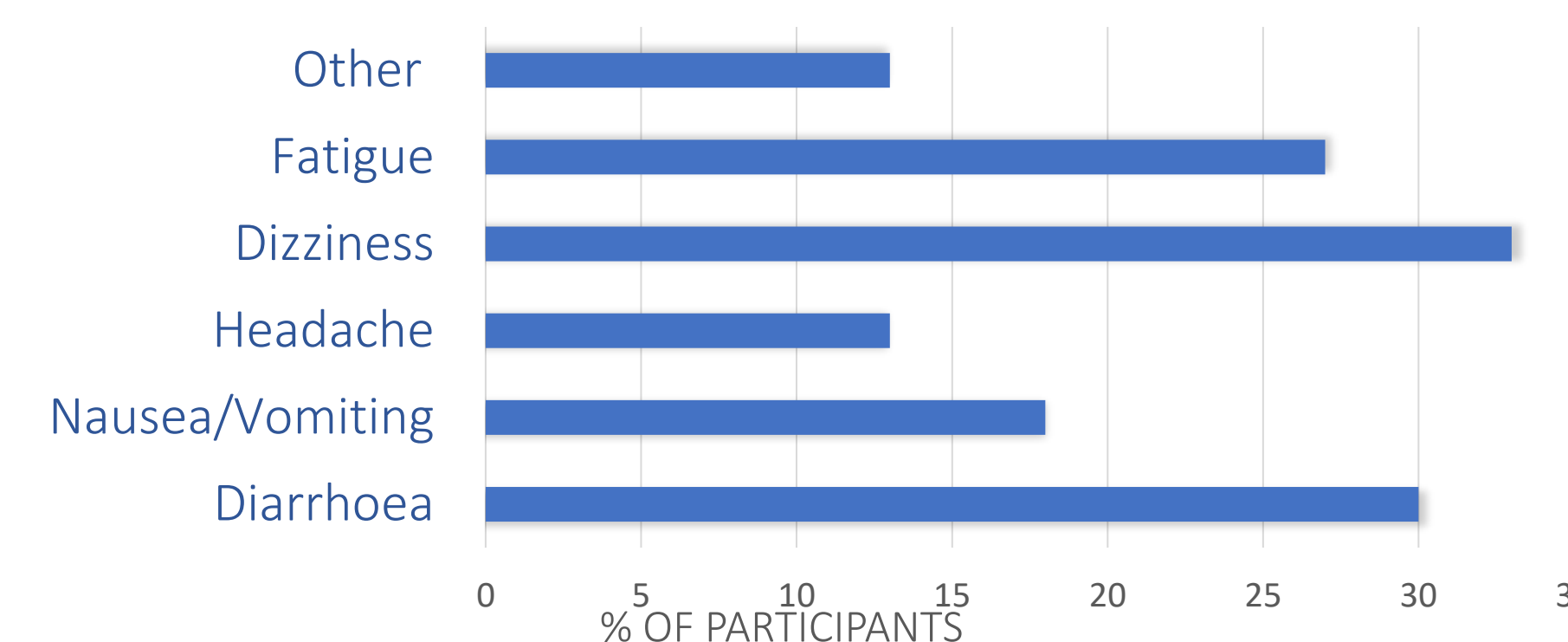
RESULTS

- Qualitative arm:** One FGD of 9 participants
- Quantitative arm:** 621 participants from 71 households across 5 villages
 - Full adherence to 2021 round of MATAMAL: **93% (579/621)**
 - Partial adherence: 3% (18/621)
 - Non-adherence: 4% (23/621)
- 20% (120/598) reported ADRs
- Most common ADR: diarrhoea (33%, 36/120)
- >50% of surveyed household respondents experienced ADRs (42/68)
- Association between **female sex and experiencing ADRs** (cOR 3.84 CI₉₅ 1.36-10.86, p=0.009)



Figure 1: Study site in the Bijagos Archipelago of Guinea-Bissau. Source: World Maps

SIDE EFFECTS REPORTED BY PARTICIPANTS



DISCUSSION

- High rates of ADRs ≠ high rates of non-adherence
 - ADRs did not result in inadequate coverage levels
- Barriers and enabling factors for adherence:
 - Knowledge and understanding of MDA drives adherence
 - Relatable messaging and community sensitization are key to integrating MDA in the community
- Social influence = major player in the decision making-process
- Rumours drive and sustain the fear of ADRs

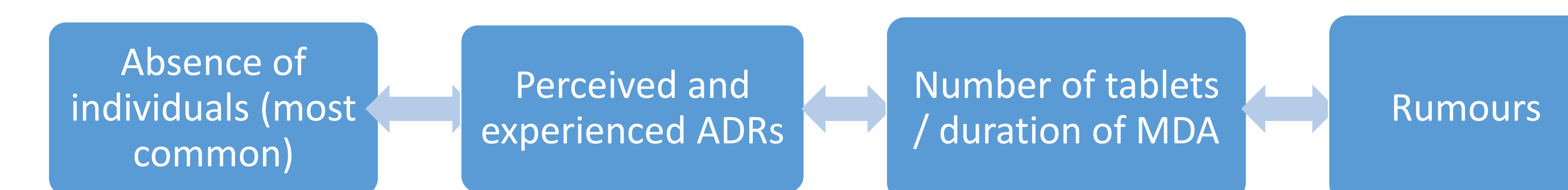


Figure 2: Barriers to adherence

CONCLUSION AND RECOMMENDATIONS

- MATAMAL intervention = safe and well tolerated
- Most ADRs of mild severity and 100% self-resolving
- Multiple biological and social factors influence an individual's decision to participate in MDA
- Trial participation influenced by both health-related and non-health related factors

Disclosure of interest statement: No conflicts of interest identified

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References: 1) WHO Guidelines for malaria, 3 June 2022. Geneva: World Health Organization; 2022 (WHO/UCN/GMP/2022.01, Rev. 2) Slater HC, Foy BD, Kobylinski K, Chaccour C, Watson OJ, Hellewell J, et al. Ivermectin as a novel complementary malaria control tool to reduce incidence and prevalence: a modelling study. Lancet Infect Dis. 2020 Apr 1;20(4):498–508.