



The Mali MaaCiwara* Project Newsletter

*(pronounced Maa-Chiwara)

July 2024 Issue 4

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Project Outline: Overall aim: To investigate the impact of a low-cost community-based intervention to reduce diarrhoea and improve nutrition through food-safety and hygiene, child feeding, hygienic child play practices Setting: Urban (Bamako) and rural communities (Bamako, Ségou, Sikasso). Intervention: The intervention was theory-based and built on former experimental studies, it was a 4-day community campaign about food safety/hygiene, nutrition and hygienic play, with performing arts, peer-support and model mother competition, dispersed across 35 days, plus volunteer home visits followed by a 9-12 months reminder campaign day. Evaluation: 27 Mother-child dyads (6-36 months old) in each community assessed at baseline, 4 & 15 months post-intervention. Timeline: Feb 2021- Dec 2024.

Outcomes Measured: Observed diarrhoea; numerous secondary outcomes including growth; child development and women's empowerment and numerous other secondary outcomes.

Process evaluation: Qualitative and quantitative process measures and evaluation is being conducted in diff. ways. Numerous sub-studies/nested studies conducted.

Note from Principal Investigators: At this juncture, with all field data collection complete, we extend our heartfelt thanks to the Mali and UK teams for their collaboration in successfully raising funds and designing and implementing a complex social and health systems intervention in a 120-community cluster randomised controlled trial. Despite the challenges of the COVID-19 pandemic, security threats, political instability, economic pressures, and funding cuts, everyone involved, from local communities and leaders to fieldworkers, technical teams from USTTB and UoB, policymakers, and the funding agency has played a crucial role. We deeply appreciate your dedication and support.

Intervention Delivery and Reminder Campaign



Intervention team, Dioula, Reminder campaign

The reminder visit to all intervention communities was concluded in November 2023. However, the activities were disrupted in one rural community by religious activists.

Two other communities in the same locality have not been reached due to security issues, rescheduled in these three communities. Other communities were enthusiastic to see the teams return, which led to increased participation in areas where mobilisation had been lacking. Adjustments in activities delivery times were made to suit people's availability. Meetings were arranged in rural areas to encourage men's participation, but attendance was poor. This poor attendance was associated with men thinking that activities targeted by messages, like food preparation and child health, are women's responsibilities. Posters displaying the MaaCiwara logo were posted on boards in the communities as a reminder of the intervention. The Mother Supervisors reported communicating MaaCiwara's behaviours in the communities during community events to reach as many people as possible.

Qualitative Research and Preliminary Findings



FGDs with mothers in a rural community

The MaaCiwara's qualitative research component provides data on context, why and how the intervention was effective & how it can be replicated in similar or different settings.

Progress to date: We conducted 72 focus group discussions-FGDs (May-July 2023 and Dec- June 2024) in 2 x 6 urban and 6 rural communities involving 6-8 MaaCiwara mothers, mother volunteers, fathers, community leaders, grandmothers and other mothers. We also conducted 7 FGDs with project and intervention staff (2023), and observations during the intervention implementation (2021), the reminder campaign (2023) and the FDG field trips to communities. Preliminary findings: Evidence of the generally positive reception of the intervention, especially where the intervention was successfully implemented. For example, a community remarked on healthier-looking infants and attributing it to having applied the intervention messages to daily practice. They noted that children now suffered less diarrheal illness and ate more fruit (bananas and oranges), which parents had previously feared would increase the children's risk of contracting malaria. Intervention seems less well received or acted upon where fathers were not sufficiently informed about the intervention, there was a lack of ownership by community leaders or well-respected women, or the intervention team did not manage to gain community support.

Capacity Building and Training



Training session: field workers and assistants

In November 2023, the team led by Sue Tebbs and the UK PM, delivered a 4-day online training workshop on project management (including time management, research integrity, protocol development, and quality management) The training was attended by almost all staff in Mali (both junior and senior staff). In September 2023, the team both in Mali and the UK attended a 5-day formal cluster RCT statistics course organised by the University of Birmingham. In Mali, in 2022, our qualitative staff received Nvivo training to aid them in the use of the software in the organisation and analysis of our qualitative data. In January 2024, the last group of 70 data collectors and supervisors were trained over 5-weeks.

Mr Lacina Traore continues his PhD, Ms Suvekshya Tiwari and Mr Youssouf Diarra have started their PhDs at University of Birmingham in September 2024. Masters and undergraduate students and interns have also successfully used project data in USTTB and UOB universities. There is ongoing mentorship and learning by all UK and Mali staff, middle and junior grade staff and researchers. As we move closer to the end of the project, capacity building, presentations and writing manuscripts has begun.

Final Quantitative Evaluation

The trial outcomes were assessed at 15 months post-intervention as per the protocol. This was the last round of evaluation. Similar to the previous round of evaluation, one rural and one urban team, each comprising 29 female field workers plus 2 anthropometric data collectors, 2 supervisors, a laboratory technician, and a data manager, were trained in data collection. The training



A child's height is being measured at home in Mali.

took place in Bamako over a month, with practical and field exercises in non-study communities. Prior to data collection, a focused census identified children 6-36 months. For data collection, 27 children of the target children were randomly selected in each community. Prior to data collection, two trained staff prepared the community by pre-selecting children and ensuring their availability on the day of the survey. Data collection began in February but was paused during the month of Ramadan and resumed in April and concluded in June 2024. As a result, 119 communities were evaluated.

Conferences and Impact

Conferences: The team both in the UK and Mali have attended several local and international conferences. In late 2023, Dr Sidibe (Trial manager) attended and presented the findings of Microplastics and health study at the 2023 American Society of Tropical Medicine and Hygiene annual meeting in the US. In addition, our Mali team attended and presented a number of abstracts at the 6th AFEA (African Epidemiological Association) and 1st SOMEPI conference in Bamako, Mali.

In Autumn 2024, we have attended and presented at the UNC WASH and health conference in US and at the African Nutrition conference in Ghana, South African conference.



Prof. Coulibali presented at Bamako Conference

Realist Review: Coproduced, arts interventions for nurturing care (0-5

years) in low and middle-income countries (LMICs). 'A realist review' is published (Gale et al, 2024 BMJ Open, 14, e083093). **Findings:** include that such nurturing care interventions have greater potential when they include local knowledge, are evaluated by teams including arts skills, and where local researchers take lead roles in intervention delivery and reporting. 2) while such interventions demonstrated the potential to change behaviour through their joyous, motivational, culturally embedded character, there was little information as to the exact mechanism of change, how the intervention linked to broader community activities or norms, who the audience was, who was excluded etc. A full qualitative analysis of the usefulness of MaaCiwara performing arts components is currently underway.

Impact work in the Gambia: Dr Bensassi and Dr Manasaki-Holland visited The Gambia, collaborating with MOH partners Dr Manjang to develop plans for replicating the MaaChampion

project in The Gambia and inclusion of the concepts in the University of The Gambia's MPH and other related formal University courses. Trips included meetings with key stakeholders including the Minister of Health, WHO and UNICEF country offices.



Dr. Manasaki-Holland & Dr. Bensassi with public health dept. of the Uni of Gambia

Sub-studies

1. Communal Handwashing before meals: This refers to more than one person washing their hands in one shared container of water, without soap and without changing the water between



Communal handwashing in the same bowl.

individuals, usually pre-meals. We have conducted several studies that highlights that the practice is widely practised in sub-Saharan Africa and spreads diseases. For next steps, we are exploring intervention options to improve hand hygiene/reduce pathogen transmission.

2. Microplastics and Health: Exploring the scale of microplastics in child's drinking water and stools in collaboration with UoB's Geography department and Prof O. Koita's laboratory. This has developed lab capacity and equipment in Mali. **Findings** have been presented in conferences and in short found MnP are detected in both water (>90%) and 60%). Microplastics were identified in water samples collestool (>cited in both rural and urban areas. Fibers were the dominant morphology found in 69% of the rural and 72% of the urban samples. Other morphologies, like fragments, were also found and commonest polymer types were investigated. A statistically significant difference was observed in the mean value of 9.9 mp/l (range 1-34 mp/l) for urban drinking water compared to 6.5 mp/l (range 0-15 mp/l) for rural drinking water.



Microplastics found

3. What 'empowerment' means in local Malian family contexts: Using a peer-research methodology, we trained 18 women from our intervention communities to carry out informal interviews and focus groups with participants from their own social circles. This methodology ensured an open discussion about the notion of 'empowerment' and the inclusion of perspectives from participants from a range of social strata. **Preliminary findings** indicate that while economic independence plays an important role for women in the urban areas, in the rural settings the women's aspirations were more closely linked to commitment to the husband, father-in-law and responsibility within the household.

Next Steps

- Database audit is on-going by Consultant Ms S.Tebbs
- PhD students, masters and undergraduate students project supervision based on project data.
- Capacity building for manuscript writing, qualitative and quantitative data analysis.
- Publications, conferences and dissemination activities.
- Impact planning with implementation and policy partners and agencies in Mali, The Gambia and internationally.

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