Implementation Research to Connect the Dots for Multiple Micronutrient Supplementation (MMS) in Nepal

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Contents

Background and Rationale

- Micronutrient deficiencies in Nepal are a major concern for maternal and child health.
- Global evidence supports the effectiveness of MMS over IFA alone.
- WHO recommends UNIMMAP-MMS and included it in WHO's Essential Medicines List.
- Landscape analysis in Nepal found interest in transitioning to MMS for better maternal and child health outcomes among Government of Nepal and other stakeholders.
- Conducting implementation research is essential to evaluate the adherence and acceptability of MMS by pregnant women within Nepal's healthcare system and feasibility among diverse stakeholders.

Research Questions and Methods

Study	Primary Question(s)	Secondary Question(s)
NAMASTE –MMS (1 province)	Is adherence to 180 MMS-blister during pregnancy non-inferior to adherence to 180 IFA-blister during pregnancy? 2. Is adherence to 180 MMS-bottle during pregnancy non-inferior to adherence to 180 IFA-blister during pregnancy?	Are the levels of adherence to MMS-bottle and MMS-blister non-inferior to the level of adherence to IFA-blister at different points during pregnancy and lactation (i.e. 30 days and 90 days from start of supplementation and 45 days postpartum)? 2. Is there a difference in adherence to 180 MMS-blister versus MMS-bottle during pregnancy? 3. Is there a difference in adherence to ANC visits during pregnancy from MMS-blister versus MMS-bottle? 4. What is the level of acceptability of IFA and MMS at different stages of pregnancy and lactation (i.e. 30 days, 90 days, and 180 days from start of supplementation and 45 days postpartum)? 5. What is the validity of women's recall of the amount of MMS/IFA received and of adherence to MMS/IFA compared to a gold standard?

Research Questions and Methods

Study	Primary Question(s)	Secondary Question(s)
Demonstration study (6 provinces)	1. What is the level of adherence to MMS after 180 days of supplementation during pregnancy for each province? 2. What is the level of acceptability of MMS after 30 days of supplementation during pregnancy for each province?	1. What is the level of adherence to MMS after 45 days of supplementation postpartum for each province? 2. What is the level of adherence to MMS after 30 days of supplementation during pregnancy for each province? 3. What is the level of acceptability of MMS after 180 days of supplementation during pregnancy for each province? 4. What is the level of acceptability of MMS after 45 days of supplementation postpartum for each province? 5. What is the validity of women's recall of the amount of MMS received and of adherence to MMS compared to a gold standard? 6. What is the validity of women's recall of the amount of MMS received and of adherence to MMS in a phone interview compared to a gold standard? 7. What is the level of agreement between women's recall of the amount of MMS received and of adherence to MMS in a phone interview compared to an in-person visit?

Research Questions and Methods

Study	Research Question(s)
MMS Acceptability (7 provinces)	1. To what degree do pregnant women in Nepal accept IFA and MMS as part of their antenatal care and why? 2. What are pregnant women's opinions about ANC and PNC, including facility service providers and FCHV services? 3. To what degree do influential family members of pregnant women in Nepal accept IFA and MMS as part of antenatal care and why? 4. What are influential family members opinions about ANC and PNC, including facility service providers and FCHV services? 5. What are pregnant women's opinions regarding information such as packaging, location of information, and slogan of IFA and MMS products? 6. What factors ensure/prevent optimal adherence to MMS intake among pregnant women throughout their pregnancy?

Research Questions and Methods

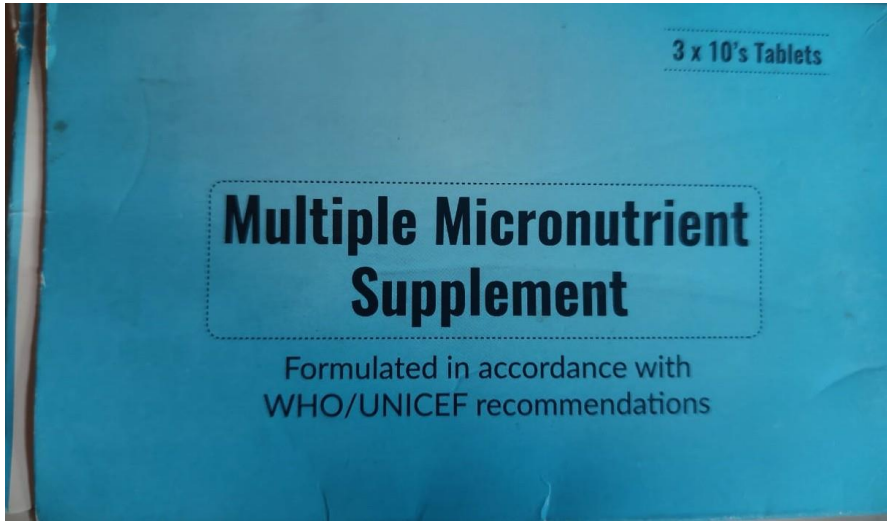
Study	Research Question(s)
MMS Operational Feasibility (7 provinces)	What are health workers and FCHVs' perspectives on providing ANC and PNC services, specifically IFA vs MMS? What equipment, storage facilities, and resources are needed for healthcare facilities to effectively transition from IFA to MMS? What strategies would best support the government of Nepal (local and provincial) to transition from IFA to MMS? What operational issues may be faced by the government (local and provincial) during the transition from IFA to MMS?

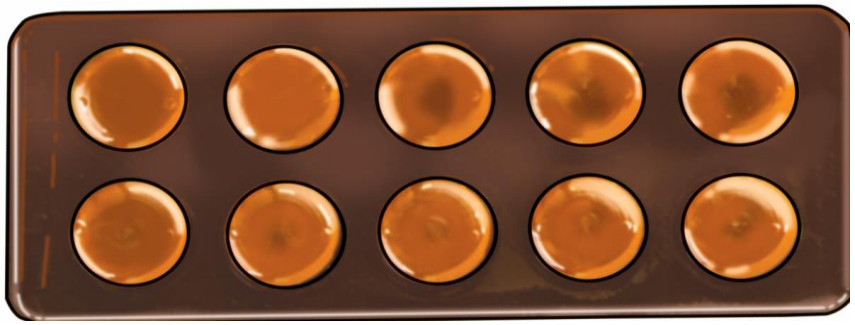
Study design and methods

NAMASTE-MMS Trial	MMS Demonstration	MMS Acceptability	MMS Operational Feasibility
Cohort of Pregnant Women in Lumbini	Cohort of Pregnant Women in 6 Provinces	Pregnant Women and key family members of all 7 Provinces	ANC providers, FCHVs, and government in all 7 Provinces
120 facilities (40 per arm)	3-6 facilities per province	14 FGDs of pregnant women (2 per/province)	14 FGDs of ANC providers (2 per province)
2640 pregnant women (880 per arm)	600 pregnant women (100 per province)	14 FGDs of family members (2 per/province)	14 FGDs of FCHVs (2 per province)
3 Arms: IFA blister; MMS blister; MMS bottle	MMS Blister	24 IDIs among pregnant women (12 high and 12 low adherers)	KII of federal (7), provincial (3 each), and district (2 per province) government officials
			KII of federal (2), provincial (2 each), and district local logistic supply chain specialist (1/province).

Progress

- Protocols and study tools finalized
- Ethical approval and amendment secured
- MMS imported, lab tested, and distributed
- Staff recruited and trained
- Stakeholder sensitization events: 7 provinces, 135 health facilities, 1159 health workers and 947 FCHVs





Progress (as of October, 2024)

Study	Total enrolled	30 days follow up
NAMASTE –MMS (1 province)	1611 (61% of sample)	1182 (44.7% of sample)
Demonstration study (6 provinces)	45 (7.5% of sample	3 (0.5% of sample)
MMS Acceptability (7 provinces)	Data collection: June -July 2025 (planned)	
MMS Operational Feasibility (7 provinces)	Data collection : Jan-Feb 2025 (planned)	

Key Takeaways

- Commitment to Maternal and Child Health
- Study design allows for flexible responses to contextual challenges.

Next steps

- Continue data collection, analysis and iterative sharing of findings
- Engage with policymakers and health systems stakeholders for evidence –based policy adaptation.

- Study participants, research staff, trial steering committee, Nutrition technical committee, Government of Nepal including Family Welfare Division, Department of Health Services.

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THANK YOU