

Multiple Micronutrient Supplementation during pregnancy:

*A meeting to create a mechanism for
increased collaboration amongst ongoing
efficacy trials*

held at

the Centre for International Child Health,
Institute of Child Health,
London, UK

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Sponsored by the Micronutrient Initiative

Efficacy Trials of Multiple Micronutrient Supplementation during pregnancy

- Background

- Studies showed micronutrients are limiting in maternal diets
- Some benefits from supplementation
- Huffman, S et.al. (1999) The case for Multiple Micronutrient Supplements.
- UNICEF/UNU/WHO (1999) Meeting to agree the composition of a multiple micronutrient supplement for use during pregnancy “in trials”

Multiple Micronutrient Supplementation

Efficacy trials: Collaboration

Mechanism

The Multiple Micronutrient Story?

- Potentially MMN can be more effective than iron folate on maternal and child survival and development

Vitamins:

Vitamin A	800 RE
Vitamin B ₁	1.4 mg
Vitamin B ₂	1.4 mg
Niacin	18 mg
Vitamin B ₆	1.9 mg
Vitamin B ₁₂	2.6 mcg
Folic Acid	400 mcg
Vitamin C	70 mg
Vitamin D	200 IU
Vitamin E	10 mg

Minerals:

Iron	30 mg
Zinc	15 mg
Copper	2 mg
Selenium	65 ug
Iodine	150 ug

Multiple Micronutrient Supplementation

Efficacy trials: Coordination Mechanism

- **1999 UNICEF earmarks US\$ 3.5 million to support development of LBW reduction, including MMN supplementation trials, through existing programmes in 11 countries:**
 - **Indonesia** through Posyandu and safe motherhood (Efficacy)
 - **Philippines** through safe motherhood (Effectiveness)
 - **China** (Efficacy)
 - **Vietnam** through safe motherhood(Effectiveness)
 - **Nepal** through community capacity building programme(Effectiveness)
 - **Bangladesh** though BINP (Efficacy and Effectiveness).
 - **India** through safe motherhood (Efficacy)
 - **Pakistan** through LHW programme(Efficacy)
 - **Tanzania** through safe motherhood programme (Effectiveness)
 - **Mozambique** (Effectiveness)
 - **Madagascar** (Effectiveness)

Multiple Micronutrient Supplementation Efficacy trials: Collaboration Mechanism

- Objectives
 - To maximize the return on resources already being invested in MMN supplementation trials
 - To ensure as far as possible improved comparability across various trials
 - To maximize possibilities of pooling data across sites (pooled or meta-analysis)
 - To relate policy/programme issues being tackled by trials to broader policy and programme issues around protecting foetal and infant growth

Issues discussed

- Common indicators / variables
- Biomarkers
- Ethical considerations / protocol
- Analytical issues
- Pooling / Meta-analysis
- Collaboration

Analytical issues

- Intent to treat analysis
- Follow the CONSORT guidelines for trial presentation
- Look at potential confounders / effect modifiers
- Specific issues around measurement of:-
 - Birth weight as outcome
 - Gestational age as outcome
 - Mortality data (as rates and RR)
 - Survival analysis

Indicators of Greatest Interest

- Prevalence of Low Birth Weight
- Maternal mortality and morbidity
- Infant and young child mortality and morbidity
- Maternal nutrition
- Breast milk nutrition
- Anaemia
- Vitamin A deficiency
- Child Development

The Process of Policy Change

- Definition of Levels of Policy Implementation: - international agency, government, district
- Clear definition of benefits of intervention
- Consistency/Plausibility of effects of intervention
- International Agencies/Consultative Groups convinced
- Advocacy by professionals
- National Governments convinced
- Public Opinion
- Affordable, especially within strategic partnerships

What enabling activities support the impact of MM?

- Malaria Control
- HIV control
- Deworming
- STD control
- Pelvic infection treatment
- Birth spacing
- Safer Motherhood Initiatives
- Integrated Management of Childhood Illness

Which sectors could add MM?

- Health systems – Antenatal Care, EPI
- Community Health – National Immunisation/HIV Days
- Social Development – Community Groups/NGOs
- Need to have full cost of activities, esp. community
- Need to identify the added value of MM to specific sectoral activities – the “cuckoo strategy”

The next stage?

- Network of exchange of information between investigators
- Meeting up to examine progress in 1 year
- Focus on efficacy and operational research where effectiveness trials are underway
- Early review of policy implications
- Keeping “an eye on the ball” as the goal posts change – EU directives re MM yesterday