Antenatal Multiple Micronutrient Supplementation in the State of Palestine: A Protocol for Implementation and Evaluation

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Objectives: The 2013 Palestinian Micronutrient Survey[1] reported high and comparable 1st trimester prevalences of micronutrient deficiencies in the Gaza Strip and West Bank: 23.6% and 21.3% for iron, 67.9% and 49.6% for zinc, 11.4% and 8.8% for vitamin A, 27.9% and 19.1% for B_{12}, 78.6% and 66.7% for vitamin D and 17.5% and 13.2% for vitamin E, respectively. Rates were generally higher among gravida in their 2nd-3rd trimesters. Interim, clinic-based, anemia rates[2] in the Gaza Strip and West Bank of 32% and 19% in the first trimester and 71% and 38% in the 2nd and 3rd trimesters, respectively, coupled with food insecurity, dietary inadequacy, civil conflict and stresses from the COVID-19 pandemic, suggest micronutrient deficiencies persist as a public health burden in the State of Palestine. To replace current iron-folic acid (IFA) with a multiple micronutrient supplement (MMS) providing a Recommended Dietary Allowance of 15 essential vitamins and minerals as standard of antenatal care (ANC) in UNWRA clinics and hot spots serving pregnant women in the Gaza (n = 22) in 2021–2 and West Bank (n = 44) in 2022–3.

Methods: MMS is planned to start in Gaza in the Fall of 2021, where UNRWA antenatal services reach ∼38,000 pregnant women with IFA each year; ∼97% of whom attended ANC ≥ 4 times[2]. Implementation will follow a randomized, step-wedge procedure whereby MMS will start in the 1st 11 clinics, and six months later, the 2nd group of 11 clinics, providing a design for monitoring and comparing the new MMS to existing IFA programs during an initial 6–8 month period.

Results: Outcomes will include indicators of adoption, acceptability, coverage, adherence, fidelity, cost-efficiencies and, as a routine clinical outcome, late pregnancy anemia.

Conclusions: Maternal micronutrient deficiencies are common in Palestine[3], meriting replacing IFA with MMS. This research protocol will evaluate implementation in the Gaza Strip to provide guidance for launching and improving antenatal MMS delivery throughout the UNRWA health system.

Funding Sources: UNWRA, Sight and Life, Kirk Humanitarian, Vitamin Angels Alliance, Ministry of Foreign Affairs of Japan, Palestine Ministry of Health.