

THE USE OF MULTIPLE MICRONUTRIENT SUPPLEMENTATION (MMS) FOR MATERNAL NUTRITION AND BIRTH OUTCOMES DURING THE COVID-19 PANDEMIC

OVERVIEW OF MMS

Good nutrition during pregnancy and lactation is essential for the health of both mother and child. Maternal micronutrient requirements during pregnancy and lactation are increased, making it more challenging to meet these requirements through diet alone, especially in low-income settings. Globally many pregnant and lactating women do not meet these requirements, which has negative consequences for their own health and immune function as well as for the health, growth and development of their infants.¹

MMS can safely and effectively improve micronutrient status and improve birth outcomes.²⁻⁴ Recent analyses⁵ have shown that in comparison with iron and folic acid alone MMS can:

- Reduce the risk of stillbirth
 - by 8% in the overall population of pregnant women
 - by 21% in the group of anemic pregnant women
- Reduce the risk of mortality among 6-month infants
 - by 29% in the group of anemic pregnant women
 - by 15% in female infants
- Reduce the risk of low birth weight (<2500g)
 - by 12% in the overall population of pregnant women
 - by 19% in the group of anemic pregnant women
- Reduce the risk of preterm (<37 weeks) birth
 - by 8% in the overall population of pregnant women
 - by 16% in the group of underweight women
- Reduce the risk of being born small-for-gestational age
 - by 3% in the overall population of pregnant women
 - by 8% in the group of anemic pregnant women

IN THE CONTEXT OF THE COVID-19 PANDEMIC, many contexts will experience disruptions in their food systems, resulting in a decreased availability of nutritious foods including fortified foods, rich in micronutrients. This may further increase the barriers to achieving a healthy diet with an adequate intake of micronutrients for pregnant and lactating women, who are usually the most socio-economically marginalized during emergencies in many settings. This is especially concerning because it will increase the risk of adverse pregnancy outcomes during a time when routine antenatal and postnatal services may be disrupted. For pregnant women, MMS can be used to help meet their increased micronutrient needs and support healthy pregnancy outcomes during the pandemic. Exclusive breastfeeding for 6 months continues to be a recommendation during the COVID-19 pandemic, calling for supporting breastfeeding women with better nutrition, which MMS can provide.

IN EMERGENCY SETTINGS, the daily use of MMS is recommended by the World Health Organization (WHO), the World Food Programme (WFP) and the United Nations Children's Fund (UNICEF), for pregnant and lactating women to ensure adequate micronutrient intake, whether they receive fortified rations or not.⁶ Moreover, UNICEF has revised its Core Commitments for Children in Humanitarian Action to include recommendations for preventing undernutrition, micronutrient deficiencies, and anaemia in pregnant women and breastfeeding mothers which recommends the use of MMS.⁷

DELIVERY OF MMS to pregnant and lactating women may become more challenging during lockdowns and with physical/social distancing measures. In cases where antenatal care contacts may be disrupted and scaled back, efforts should be made to pre-position supplies (2-3 months) and to increase the amount of MMS distributed per contact to 100 tablets (3-month supply) to pregnant and lactating women when access to providers and travel is restricted.

For additional information regarding the use of MMS, please contact the MMS Technical Advisory Group at nutrition@nyas.org.

References

- (1) Gernand, A. D.; Schulze, K. J.; Stewart, C. P.; West Jr, K. P.; Christian, P. Micronutrient Deficiencies in Pregnancy Worldwide: Health Effects and Prevention. *Nat Rev Endoc* **2016**, *12* (5), 274–289.
- (2) Black, R. E.; Dewey, K. G. Benefits of Supplementation with Multiple Micronutrients in Pregnancy. *Ann. N. Y. Acad. Sci.* **2019**, *1444* (1), 3–5.
- (3) Bourassa, M. W.; Osendarp, S. J. M.; Adu-Afarwuah, S.; Ahmed, S.; Ajello, C.; Bergeron, G.; Black, R.; Christian, P.; Cousens, S.; de Pee, S. Antenatal Multiple Micronutrient Supplementation: Call to Action for Change in Recommendation. *Ann. N. Y. Acad. Sci.* **2019**, *1444* (1), 6–21.
- (4) Schulze, K. J.; Mehra, S.; Shaikh, S.; Ali, H.; Shamim, A. A.; Wu, L. S. F.; Mitra, M.; Arguello, M. A.; Kmush, B.; Sungpuag, P. Antenatal Multiple Micronutrient Supplementation Compared to Iron–Folic Acid Affects Micronutrient Status but Does Not Eliminate Deficiencies in a Randomized Controlled Trial among Pregnant Women of Rural Bangladesh. *J. Nutr.* **2019**, *149* (7), 1260–1270.
- (5) Smith, E. R.; Shankar, A. H.; Wu, L. S.-F.; Aboud, S.; Adu-Afarwuah, S.; Ali, H.; Agustina, R.; Arifeen, S.; Ashorn, P.; Bhutta, Z. A.; Christian, P.; Devakumar, D.; Dewey, K. G.; Friis, H.; Gomo, E.; Gupta, P.; Kæstel, P.; ... Sudfeld, C. R. Modifiers of the Effect of Maternal Multiple Micronutrient Supplementation on Stillbirth, Birth Outcomes, and Infant Mortality: A Meta-Analysis of Individual Patient Data from 17 Randomised Trials in Low-Income and Middle-Income Countries. *Lancet Glob. Heal.* **2017**, *5* (11), e1090–e1100.
- (6) World Health Organization; UNICEF; World Food Programme. Preventing and Controlling Micronutrient Deficiencies in Populations Affected by an Emergency. *Bull. World Heal. Organ.* **2007**, *1*, 5–6.
- (7) United Nations Children’s Fund (UNICEF). Core Commitments for Children in Humanitarian Action (Draft). **2020**.