

Multiple Micronutrient Supplementation in Pregnancy: One of the Best Investments for Development



The 2023 Copenhagen Consensus Report highlights multiple micronutrient supplementation for pregnant women as a top investment for healthy pregnancies and babies worldwide with return of over \$37 for each dollar spent.

New Copenhagen Consensus Report identifies multiple micronutrient supplementation (MMS) for pregnant women as one of the 12 best investments for global development. The report, authored by leading international economists, highlights the substantial economic benefits of MMS. It estimates a total **annual benefit of over US\$3.1 billion**, including US\$94 million from averted stillbirths, US\$428 million from averted preterm births, and US\$ 2.6 billion from averted low birth weights when replacing iron-folic acid (IFA) supplements with MMS.¹

Micronutrients, or vitamins and minerals, are essential for good health and wellbeing throughout life, but pregnant women need up to 50% more micronutrients to support the physiological changes that occur in their bodies and meet the nutritional needs of their growing babies. Micronutrient deficiencies during pregnancy can lead to serious health consequences for both the mother and child, such as insufficient weight gain, impaired fetal growth, cognitive impairments in children, birth defects, and maternal and fetal death.^{2,3}

Micronutrient deficiencies affect two in three women of reproductive age worldwide.⁴ Pregnant women in low- and middle-income countries (LMIC) are especially at risk due to poor diets that fail to provide sufficient nutrients for the mother and fetus. Efforts to reduce these deficiencies include a range of complementary interventions including dietary diversification, commercial food fortification, and supplementation, such as IFA supplements.

Currently, 40% of pregnant women in LMIC (or 36 million annually) receive IFA supplements, yet studies show that using MMS instead can lead to better pregnancy outcomes and higher economic returns. The cost of replacing IFA supplements with MMS is just US\$84 million per year, yet the benefits are worth US\$3.16 billion, resulting in more than US\$37 economic return for every one dollar spent.¹

Taking MMS during pregnancy can help to ensure adequate intake of essential vitamins and minerals that are vital for proper organ development, bone formation, cognitive development, and immune function. This reduces the risk of stillbirths, low birth weight, premature births, and small-for-gestational age births.⁵⁻⁷

Children born prematurely or with low birth weight are less likely to go to school, develop reading and math skills, and earn higher wages in adulthood.⁸⁻¹⁰

“Micronutrient deficiencies affect two in three women of reproductive age worldwide.”



Providing pregnant women MMS can help reduce the risk of these adverse birth outcomes, which can lead to better cognitive development and increased employment opportunities for their children.

The report provides global and national decision makers the critical evidence for making practical and smart investments to improve nutrition. It highlights MMS as a simple, safe, and cost-effective solution to combat malnutrition and ensure healthy pregnancies worldwide.¹

References

- 1 Larsen B, Hoddinott J, Razvi S. Investing in nutrition – a global best investment case. *Journal of Benefit Cost Analysis*. 2023 (in press). Available at: <https://copenhagenconsensus.com/sites/default/files/2023-03/Nutrition%20Best%20Investment%20Manuscript%20230211.pdf>
- 2 Gernand AD, Schulze KJ, Stewart CP, West KP Jr, Christian P. Micronutrient deficiencies in pregnancy worldwide: health effects and prevention. *Nat Rev Endocrinol*. 2016 May;12(5):274-89. doi: 10.1038/nrendo.2016.37. Epub 2016 Apr 1.
- 3 Bourassa MW, Osendarp SJM, Adu-Afarwuah S, et al. Review of the evidence regarding the use of antenatal multiple micronutrient supplementation in low- and middle-income countries. *Ann N Y Acad Sci*. 2019 May;1444(1):6-21. doi: 10.1111/nyas.14121.
- 4 Stevens GA, Beal T, Mbuya MNN, Luo H, Neufeld LM; Global Micronutrient Deficiencies Research Group. Micronutrient deficiencies among preschool-aged children and women of reproductive age worldwide: a pooled analysis of individual-level data from population-representative surveys. *Lancet Glob Health*. 2022 Nov;10(11):e1590-e1599. doi: 10.1016/S2214-109X(22)00367-9
- 5 Keats EC, Haider BA, Tam E, Bhutta ZA. Multiple-micronutrient supplementation for women during pregnancy. *Cochrane Database Syst Rev*. 2019 Mar 14;3(3):CD004905. doi: 10.1002/14651858.CD004905.pub6.
- 6 Smith ER, Shankar AH, Wu LS, et al. 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 Health*. 2017 Nov;5(11):e1090-e1100. doi: 10.1016/S2214-109X(17)30371-6.
- 7 Oh C, Keats EC, Bhutta ZA. Vitamin and mineral supplementation during pregnancy on maternal, birth, child health and development outcomes in low- and middle-income countries: a systematic review and meta-analysis. *Nutrients*. 2020 Feb 14;12(2):491. doi: 10.3390/nu12020491.
- 8 Bilgin A, Mendonca M, Wolke D. Preterm birth/low birth weight and markers reflective of wealth in adulthood: a meta-analysis. *Pediatrics*. 2018 Jul;142(1):e20173625. doi: 10.1542/peds.2017-3625.
- 9 Kormos CE, Wilkinson AJ, Davey CJ, Cunningham AJ. Low birth weight and intelligence in adolescence and early adulthood: a meta-analysis. *J Public Health (Oxf)*. 2014 Jun;36(2):213-24. doi: 10.1093/pubmed/fdt071.
- 10 McBryde M, Fitzallen GC, Liley HG, Taylor HG, Bora S. Academic outcomes of school-aged children born preterm: a systematic review and meta-analysis. *JAMA Netw Open*. 2020 Apr 1;3(4):e202027. doi: 10.1001/jamanetworkopen.2020.2027.



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