

Multiple Micronutrient Supplementation supports every stage of the pregnancy journey

This infographic has been sponsored by Bayer.

Poor maternal health and nutrition is a global concern

260,000
maternal deaths occurred in 2023¹

15 million
pre-term births every year²

10-15%
incidence of perinatal mental health disorders³

Approximately 1.2 billion women of reproductive age (69%) have ≥1 core nutrient deficiency (iron, zinc, folate)⁴

Micronutrient deficiencies are associated with adverse pregnancy outcomes.⁵



NTDs



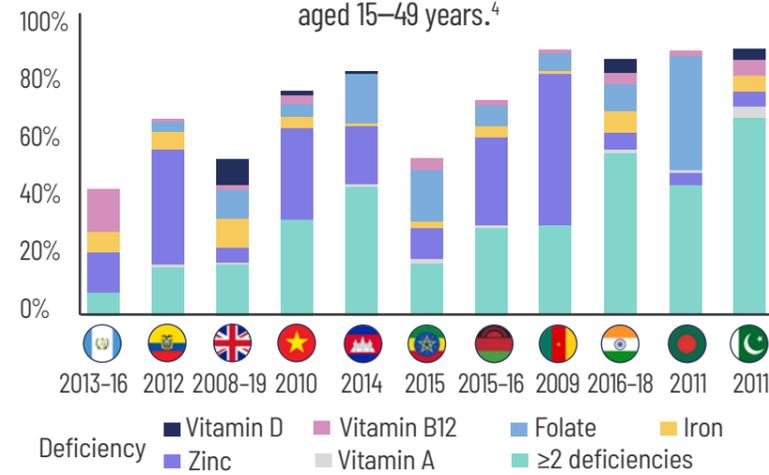
Miscarriage



Post-natal depression

Micronutrient needs increase during pregnancy and lactation⁵ and **deficiencies are widespread** (Figure 1).⁴

Figure 1: Prevalence of micronutrient deficiencies in non-pregnant women aged 15–49 years.⁴

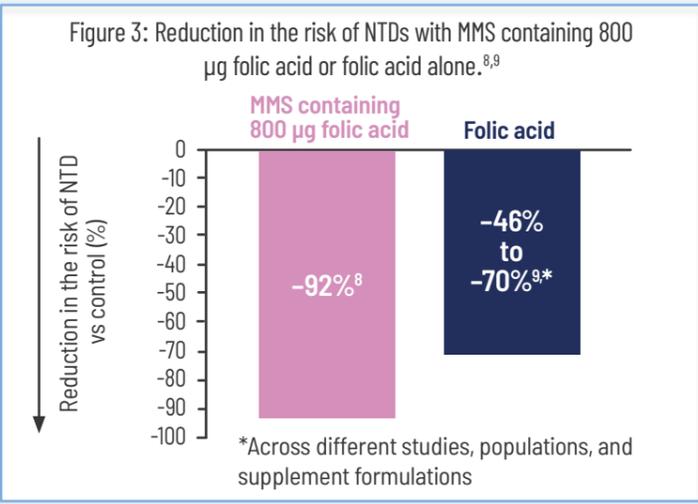
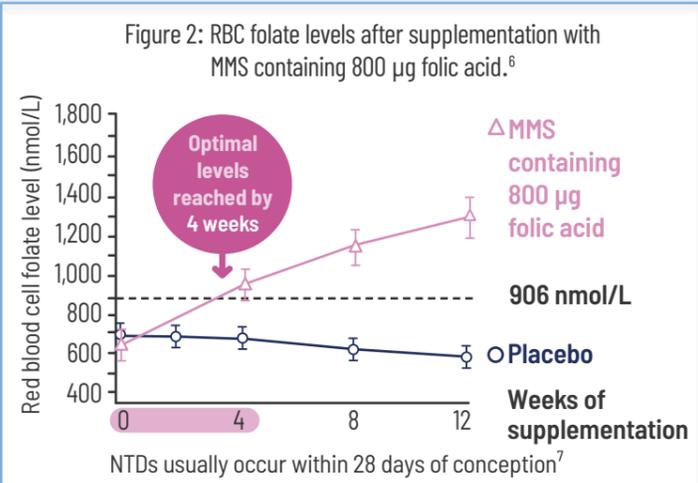


MMS are comprehensive formulations developed to support maternal and infant health

- MMS are designed to support maternal nutritional needs **during preconception, pregnancy, and lactation.**⁵
- MMS typically contain up to **800 µg folic acid plus other vitamins and minerals** in a single pill taken once daily.⁵
- MMS have been used by **millions of women for over 40 years** and have a good safety and tolerability profile.⁵

Conclusion

Clinical evidence demonstrates that **MMS, particularly formulations containing 800 µg folic acid, can support maternal and fetal health** from pre-conception through pregnancy and lactation.



Pre-conception

- Micronutrients, particularly folic acid and vitamins B2, B6, and B12, are crucial for **brain and neural tube formation.**⁵
- Prior to conception, RBC levels of folate must reach a threshold that is protective against NTDs (>906 nmol/L).⁵
- Clinical study shows that protective folate levels are reached within **4 weeks with an MMS containing 800 µg folic acid** (Figure 2).⁶
- MMS containing 800 µg folic acid reduced the risk of NTDs by 92%** vs controls (Figure 3).⁸

Pregnancy

- Multiple micronutrient deficiencies, including iron, folate, and vitamins B2 and B12, contribute to the **risk of anaemia.**⁵
- An MMS containing 800 µg folic acid **significantly reduced the risk of anaemia** ($p < 0.0001$) and **improved iron status** ($p < 0.005$) in at-risk women.¹⁰
- A study in a Chinese population showed lower rates of iron deficiency anaemia with MMS vs folic acid alone (Figure 4).¹¹

Figure 4: Incidence of iron-deficiency anaemia in women receiving folic acid only vs MMS.¹¹

25.3%
Folic acid only

1.2%
MMS

Anaemia during pregnancy

Birth

- 3 months of MMS before and during pregnancy, in women at risk, **reduced pre-term birth risk 6.6-fold** vs previous pregnancies.¹²

6.6-fold
reduction
in pre-term
birth risk

Post-natal

- MMS resulted in **significant improvements in mood** vs a calcium + vitamin D3 treatment (Figure 5).¹³

Figure 5: Improvements in post-natal mood using the Edinburgh Post-natal Depression Scale.¹³

Days postpartum	Control (calcium + Vit D3)	MMS
0	6.1	6.1
10	4.9	4.1
20	4.5	3.2
30	4.5	3.2

Lower risk of postpartum depression

EPDS score

Days postpartum

p < 0.05

References

- World Health Organization (WHO). 2025. Available at: <https://www.who.int/news-room/fact-sheets/detail/maternal-mortality>. Last accessed: 12 January 2026.
- World Health Organization (WHO). 2012. Available at: <https://www.who.int/news/item/02-05-2012-15-million-babies-born-too-soon>. Last accessed: 12 January 2026.
- World Health Organization (WHO). 2026. Available at: <https://www.who.int/teams/mental-health-and-substance-use/promotion-prevention/maternal-mental-health>. Last accessed: 12 January 2026.
- Stevens GA et al. Lancet Glob Health. 2022;10(11):e1590-9.
- Liu J et al. Nutr Rev. 2025;83(12):2352-71.
- Brämwig S et al. Int J Vitam Nutr Res. 2009;79(2):61-70.
- Wang Y et al. J Reprod Med. 2017;26:1196-206.
- Czeizel AE. Int J Med Sci. 2004;1(11):50-61.
- Blencowe H et al. Int J Epidemiol. 2010;39:110-21.
- Khodova SI, Murashko LE. Consilium Medicum. 2006;8(6):20-3.
- Lin S et al. Chinese J Pract Gynaecol Obstet. 2020;36:177-81.
- Arzhanova ON et al. Gynecol J. 2009;5:53-5.
- Paoletti AM et al. Gynecol Endocrinol. 2013;29(8):779-83.

Abbreviations:

EPDS: Edinburgh Postnatal Depression Scale; MMS: multiple micronutrient supplementation; NTD: neural tube defect; RBC: red blood cell; Vit: vitamin; vs: versus.

This infographic is based on a symposium that took place on 7th October as part of the **FIGO XXV World Congress of Gynecology and Obstetrics** held in Cape Town, South Africa between 5th-9th October 2025.



Gian Carlo Di Renzo



Zigor Campos Goenaga