

Changing the Standard

Why multiple micronutrient supplements in pregnancy are an ethical issue

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On 9 July 1999, the United Nations Children’s Fund (UNICEF), the World Health Organization (WHO) and the United Nations University (UNU) held a technical workshop at UNICEF’s headquarters in New York to address widespread micronutrient deficiencies and high rates of anemia among pregnant women. Looking beyond iron and folic acid (IFA), the workshop designed a comprehensive prenatal supplement – or multiple micronutrient supplement (MMS) – that would be tested in effectiveness trials among pregnant women in low- and middle-income countries (LMICs). Thus, the United Nations International Multiple Micronutrient Antenatal Preparation – now commonly known by its acronym, UNIMMAP – was born.

The group at the workshop was, in many ways, before its time. They identified access to MMS as an inequity issue as stated in a report the group published after the workshop: “The high [micronutrient] needs of pregnancy are almost impossible to cover through dietary intake [alone] – in most industrialized countries, it is common for women to take multiple micronutrient supplements during pregnancy and lactation.” And the group discussed how MMS could impact other at-risk groups, particularly adolescent girls.

They also considered the needs of the women most in need – and reflected on the information at their fingertips. The UNIMMAP formulation consisted of 1 RDA (Recommended Dietary Allowance for women aged 19–50 years during pregnancy and lactation) for 15 essential vitamins and minerals. But they correctly predicted that 1 RDA underestimated the requirements for populations in LMICs because these were based on dietary reference intakes from populations in the USA and Canada, where nutritional statuses are stronger. In April, results from the JiVitA-3 study in rural Bangladesh (the largest ever trial comparing prenatal MMS with

IFA) showed that 1 RDA, while reducing risks of preterm birth, low birth weight (LBW) and stillbirth, and while improving micronutrient status, failed to eliminate deficiencies. Might 2 RDAs have had a greater effect on birth outcomes in an environment where poverty, poor diets and frequent infections prevail?

“Malnutrition is a driver of intergenerational inequity, poverty and poor health”

The bigger picture

Malnutrition – undernutrition, overweight, obesity and micronutrient deficiencies – is a driver of intergenerational inequity, poverty and poor health. It represents a significant barrier to equitable and sustainable social and economic development, in high- and low-income countries alike. However, many women and girls lack access to essential antenatal and postnatal care services, including micronutrient supplementation. This is especially true for women living in LMICs. While 62% of pregnant women globally receive at least four antenatal care visits, in regions with the highest rates of maternal mortality – such as Sub-Saharan Africa and South Asia – only 52% and 46% of women in the respective regions receive the same services. Further coverage disparities exist between poor and rich, and rural and urban households. In South Asia and Sub-Saharan Africa, the urban–rural gap in coverage of antenatal care visits exceeds 20 percentage points in favor of urban areas, and the richest 20% of the population are more likely to receive antenatal care than poorer women. Good nutrition and equitable rights for all women are mutually reinforcing, with improved gender equality leading in turn to improved nutrition.

We see this uneven and suboptimal maternal care reflected in infant birth weight. A new study by the London School of Hygiene & Tropical Medicine (LSHTM), WHO and UNICEF finds that there has been minimal progress on reducing the number of ba-



Multiple micronutrient supplementation provides benefits to mother and child not just during pregnancy but for years to come.

bies born with LBW, meaning that they weigh less than 2,500 grams at birth – a cause for alarm given that LBW increases the risk of newborn death, stunted growth, developmental delays and conditions such as heart disease and diabetes later in life. As the mother’s micronutrient requirement increases during pregnancy in order to support the growth of the fetus, maternal undernutrition during pregnancy is closely linked with LBW. In 2015, 14.6% of all births worldwide, or 20.5 million babies, were born with LBW, the majority in Sub-Saharan Africa and South Asia. Urgent action is needed to get the world on track to meet global goals on LBW, and maternal nutrition must be at the center of this effort.

Time for a change

To help meet women’s increased nutritional demands during pregnancy, WHO recommends IFA as the current standard of care for pregnant women – but the policy has not changed in 50 years. The most recent 2016 WHO Antenatal Care (ANC) Guidelines, however, opened a window for MMS. The guidelines counsel against the use of MMS due to “some evidence of risk, and some important gaps in evidence,” but stipulate that “policymakers in populations with a high prevalence of nutritional deficiencies might consider the benefits to outweigh the disadvantages [such as cost], and may choose to give multiple micronutrient supplements that include iron and folic acid.”

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Since 2016, the scientific community has met all WHO’s concerns regarding risk and evidence. Compelling scientific evidence shows that taking MMS during pregnancy reduces the risk of maternal anemia and reduces the likelihood of a child being born with LBW and too small. Anemic and underweight women benefit even more from MMS and have reduced risk of infant mortality and preterm births compared with mothers taking only IFA. Furthermore, recent research shows that MMS can reduce the gender imbalance in terms of the survival of female neonates compared with IFA supplementation alone, and that it represents an opportunity to invigorate maternal nutrition by putting women at the center of antenatal care.

The push for progress

The Women Deliver Conference (Vancouver, 3–6 June 2019) was the world’s largest conference on gender equality. Through their participation, *Sight and Life* and other leading organizations are working to elevate MMS. At Women Deliver, *Sight and Life*

partnered with the Children Investment Fund Foundation (CIFF), Kirk Humanitarian, 1,000 Days, Vitamin Angels and the Multiple Micronutrient Supplement Technical Advisory Group (MMS TAG) to host a side event to make the case for MMS and build support for the movement to update the global recommendations on MMS. Named Power for Mothers, this event capitalized on the gathering of global leaders, key influencers, decision-makers, civil society and donors as part of the Women Deliver Conference.

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I firmly believe that, after 20 years of research and some 20 studies and meta-analyses comparing IFA and MMS on birth outcomes, it is unethical to further withhold MMS from pregnant women in low-resource settings. The MMS TAG (to which I belong) has documented the clear scientific advantage of MMS over IFA and the safety of MMS for mothers and their children, and has shown that the provision of prenatal MMS is a cost-effective intervention. Not only is MMS cost-effective; it has also achieved cost parity with IFA.

It is no wonder that some early-riser countries with widespread micronutrient deficiencies have requested implementation research and donations of MMS for the successful replacement of IFA in their health sector. The moment has come to adapt global and national guidelines to the overwhelming evidence. Disparities in antenatal care including the provision of MMS are no longer acceptable.

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