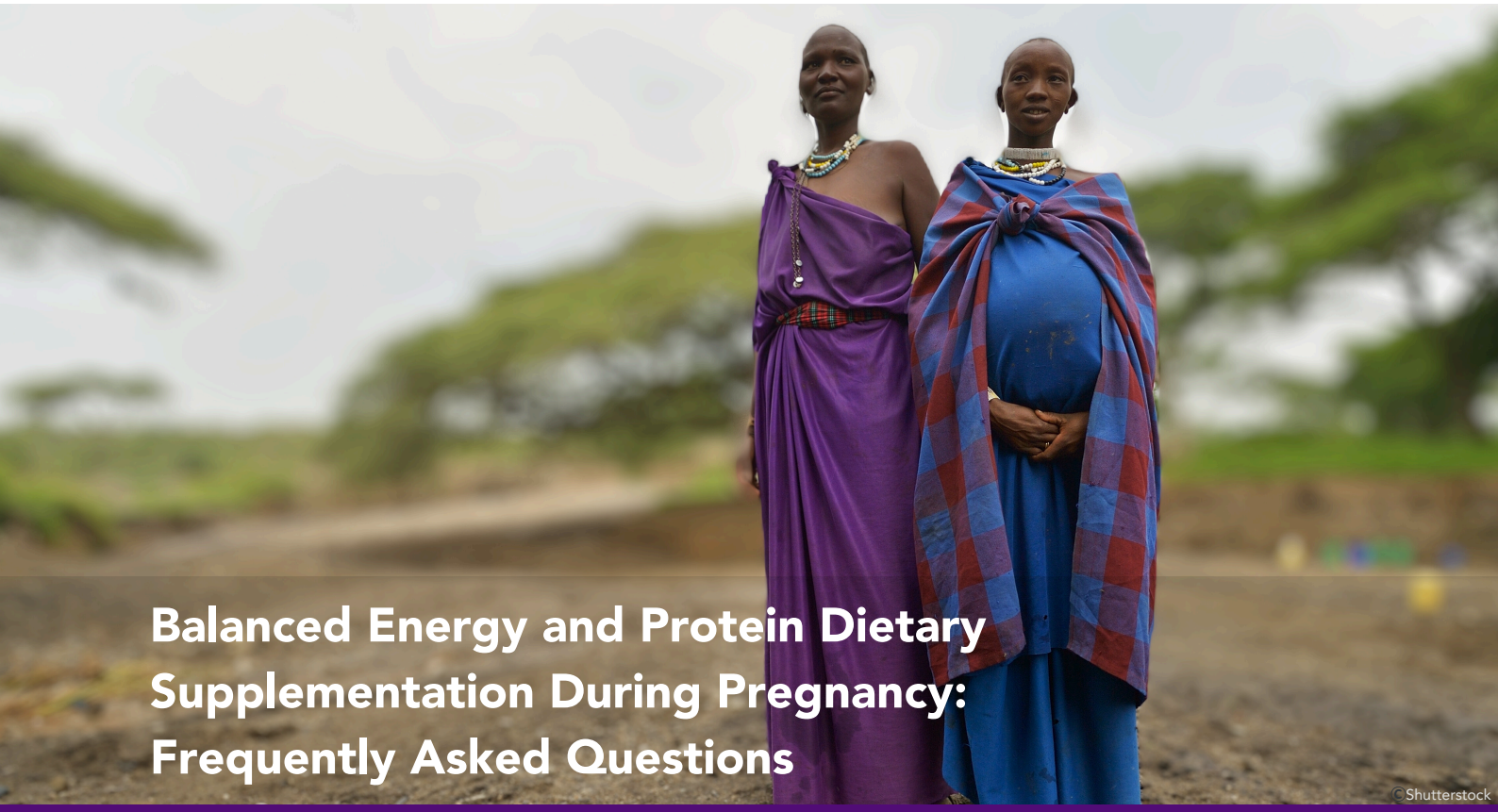


Balanced Energy and Protein Dietary Supplementation During Pregnancy: Frequently Asked Questions

June 2025

FAQ: PART I

General

What is BEP dietary supplementation?

Balanced energy and protein (BEP) dietary supplementation is a nutritional intervention for pregnant women providing energy (calories) and protein (such that protein provides less than 25% of the total energy content), in the form of a food, in undernourished populations to support the health of mothers and development of the baby. It may also be fortified with vitamins and minerals (micronutrients) or given alongside a micronutrient supplement, such as iron and folic acid supplements (IFA) or multiple micronutrient supplements (MMS).

It is used to fill daily energy and protein inadequacies among pregnant women and the World Health Organization (WHO)[1] recommends antenatal BEP dietary supplementation for pregnant women residing in undernourished populations (≥ 20% underweight women of reproductive age, based on body mass index [BMI] < 18.5 kg/m^2) to reduce the risk of stillbirths and small-for-gestational age newborns (Ota et al., 2016).[2]
It can also be provided where access to nutritious food and health services is very limited, included but not limited to humanitarian contexts.

Why is BEP dietary supplementation important during pregnancy?

BEP dietary supplementation is important because it improves nutrition in pregnant women and birth weight and reduces the risk of stillbirth (death after 20 weeks' gestation and before birth) and small-for-gestational age newborns.[2]

How are BEP dietary supplements different from prenatal supplements taken in the form of a tablet?

BEP dietary supplementation is a food-based product that includes energy and protein and can be fortified with or given alongside micronutrients. Prenatal supplements, such as IFA and MMS often come in the form of a tablet and contain only vitamins and minerals.

Composition and Intake

In which forms is BEP dietary supplementation given?

BEP dietary supplementation can be provided in various forms, including nutrition bars or sachets, such as lipid-based nutrient supplements (LNS)[3], drinks, fortified cereals and flours with added protein, or locally prepared foods or snacks.

What is the composition of BEP dietary supplements?

Product specifications for BEP dietary supplementation can vary, some are fortified with multiple micronutrients whereas others are not but can be given along an MMS tablet.

In 2017, an Expert Consultation Report[4] proposed the following macronutrient (Figure 1) and micronutrient recommendations for BEP dietary supplements:

Required Micronutrients: Vitamins A, D, E, K, B1, B2, B3, B6, folate, B12, C, and minerals iron, zinc, iodine, calcium, phosphorus, copper, and selenium.

A comprehensive list of micronutrients with their recommended doses is available in this report.[4] It consists of essentially the same micronutrients and levels as those in MMS, except for the micronutrients that are required in relatively high amounts, which are easier to add to a BEP than to incorporate into MMS.

Optional Micronutrients: Vitamin B5, manganese, potassium, magnesium, biotin, and choline.

What is the recommended intake of BEP dietary supplementation?

Currently, in the WHO 2016 guidelines,[1] there is no recommended intake/dose of BEP dietary supplementation. However, the Expert Consultation Report[4] recommends the serving/dose of BEP dietary supplementation to be between 250 – 500 kcal per day.

When should a pregnant woman start BEP dietary supplementation?

BEP supplementation should begin early, preferably at the beginning of the second trimester. Early supplementation ensures that the nutritional needs of both the mother and the fetus are met throughout critical periods of development.

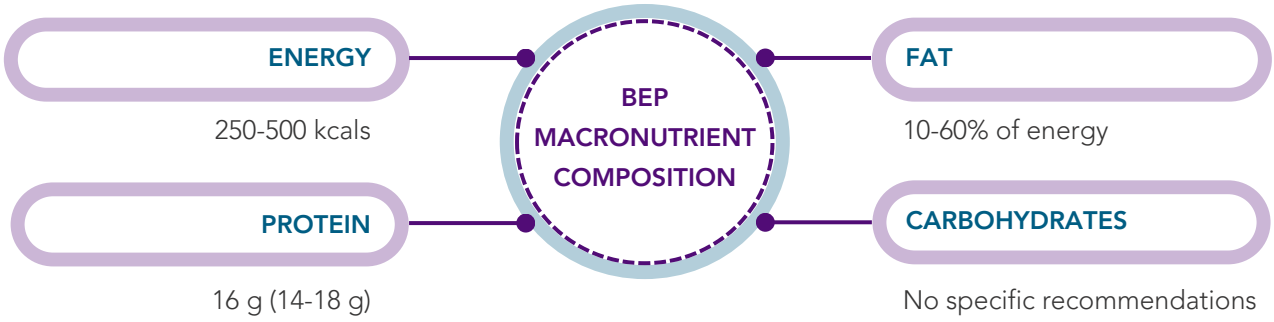
Target Population

Who should be given BEP dietary supplementation?

As per WHO[1], BEP dietary supplementation is recommended for pregnant women residing in regions or areas where more than ≥ 20% of women of reproductive age are underweight (as determined with BMI < 18.5 kg/m^2).

While WHO does not specify a mid-upper arm circumference (MUAC) cutoff, some programs use MUAC < 23 cm as a criterion.

Figure 1 - Macronutrient Composition of BEP Dietary Supplementation



Various national and humanitarian programs provide BEP supplementation based on:

- The prevalence of underweight women of reproductive age within specific socio-economic groups
- Target populations eligible for social assistance
- Individual risk factors (e.g., MUAC < 23 cm) for poor birth outcomes due to inadequate maternal nutrition

What are the current evidence gaps in BEP dietary supplementation?

Some of the key evidence gaps are, optimal dose and duration of supplementation, targeting strategies, delivery platforms, large-scale population studies (effectiveness studies), cost-effectiveness studies, and long-term health benefits of BEP dietary supplementation (for more information, please read this scoping review).[15] The BEP-TAG[16] aims to address some of these knowledge gaps.

Evidence on Health Benefits

What are the most recent research developments in BEP supplementation?[5]

Most recent research is a prospective individual participant data meta-analysis that aims to combine the MISAME-III, ENAT, MumtaPW, WINGS, and MINT trials (more details listed below for each trial) to evaluate the effect of BEP dietary supplementation given to pregnant women on a variety of maternal and infant outcomes.

Recently completed[6] and ongoing trials[7] (for more information you may access each trial on ClinicalTrials.gov[8] or WHO trials registry[9]):

- ENAT in Ethiopia[10]
- MINT in Nepal[11]
- MISAME-III in Burkina Faso[12]
- MumtaPW in Pakistan[13]
- WINGS in India[14]
- JiVitA-BEP-IR in Bangladesh
- BEP targeting strategies in Ethiopia

Additional Resources

- BEP Online Database of BEP-related Studies
- Review of the Use of Balanced Energy Protein (BEP) Supplementation for Pregnant and Breastfeeding Women and Girls (PBW/G)
- Programme Guidance to Protect the Nutrition of Women and Adolescent Girls in Humanitarian Settings
- Improving Maternal Nutrition in India Through Integrated Hot-cooked Meal Programs: a Review of Implementation Evidence
- National Nutrition Thriposha Intervention Programme to combat malnutrition in Mothers and Children of Sri Lanka
- Rwanda: Logistics Expertise Drives WFP's Response to Hunger
- Results from the Oportunidades Program in Mexico
- Benazir Nashonuma Programme in Pakistan

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About HMHB

The Healthy Mothers Healthy Babies Consortium (HMHB), hosted by the **Micronutrient Forum,** is a growing collective of over 300 individuals and organizations dedicated to improving maternal nutrition. We work collaboratively to advance evidence-based interventions such as multiple micronutrient supplementation (MMS) and balanced energy and protein (BEP) dietary supplementation during pregnancy in low- and middle-income countries. HMHB also convenes Technical Advisory Groups (TAGs) on **MMS** and **BEP**, bringing together experts in nutrition, maternal health, and public health to interpret evidence, identify knowledge gaps, and provide guidance to governments, NGOs, and partners.

Visit our website for the latest knowledge, evidence, guidance, and tools on maternal nutrition. Explore the World Map on MMS, Knowledge Hub, Advocacy Resource Center, Women's Voices short films, and Knowledge Byte videos. Join us in powering women's nutrition for promising futures. Become a member.

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