



## The role of supplement shakes during pregnancy and breastfeeding

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### Introduction

Good nutrition is essential for maintaining health throughout life. This is especially true during pregnancy. Women need more energy and nutrients to support a growing foetus and allow for the bodily changes that occur during pregnancy.<sup>1,3</sup> Although it is important for both pregnant and breastfeeding women to consume a balanced diet, it can be difficult to meet nutrient requirements through food alone. This is particularly the case for women that follow restrictive diets. For this reason, it may be beneficial for pregnant and breastfeeding women to consider supplementing their diets with appropriate 'shakes'.<sup>1,2</sup>

### Pregnancy and breastfeeding

Nutrition plays an important role throughout pregnancy and breastfeeding. When a woman is pregnant, her body undergoes many physiological changes. The metabolic rate increases by 15%, meaning that the body uses more energy.<sup>4</sup> Blood volume increases by 50% in order to supply the growing foetus with enough oxygen. Heart, kidney and digestive function is also altered. Increased nutrient intake is essential to support these changes. Furthermore, the higher hormone levels associated with pregnancy can cause nausea, vomiting and constipation (which can significantly affect dietary intake).<sup>1</sup> After giving birth, the body naturally begins to produce breastmilk for the newborn baby. Women should still consume more energy while breastfeeding and should take vitamin and mineral supplements in the case of deficiency.<sup>1</sup> It is necessary to understand the nutritional needs of pregnant and breastfeeding women in order to achieve the optimal health of both mother and child.<sup>3</sup>

### Nutritional needs during pregnancy and breastfeeding

Dietary habits can influence the outcome of a pregnancy before a woman even falls pregnant. For example, if a woman has a folate deficiency at the time of conception, her child is more likely to be born with birth defects.<sup>1</sup> Children born to malnourished mothers are more likely to have major developmental problems and suffer from obesity and heart disease as adults.<sup>3</sup> Good nutrition during a woman's reproductive years will not only benefit her own health, but will also contribute to her child's 'first 1 000 days of life'. The 'first 1 000 days' begins at conception and ends on the child's second birthday. This time period is a critical window for development.<sup>5</sup> Supplementation with folic acid and other nutrients could be beneficial prior to and throughout pregnancy, as well as during breastfeeding.<sup>1</sup> This is particularly true for women that follow restrictive diets (e.g. veganism) or live in countries where access to an energy- and nutrient-rich diet is difficult. If a mother chooses to breastfeed, her nutritional status will continue to play a role in the growth and development of her child. Breastmilk is the preferred source of nutrition for infants for the first six months of life and mothers are encouraged to breastfeed for two years and beyond. Women require more energy during breastfeeding and may benefit from taking supplements.<sup>1</sup> Good maternal nutrition from the time of conception to the breastfeeding period is clearly essential for the growth and development of a child.

### Macronutrient needs

The calorie-containing substances found in food are known as macronutrients. Carbohydrates, protein and fat are all macronutrients that provide us with energy. During the first trimester of pregnancy, additional calories are not yet necessary. However, energy requirements increase by 340 kcal/

day and 452 kcal/day during the second and third trimesters, respectively. On average, the daily energy requirements for pregnant women are approximately 300 kcal more than for non-pregnant women.<sup>4</sup> If a woman is at a healthy weight and consumes enough energy, she should gain between 11.5 and 16 kg by the end of her pregnancy.<sup>2</sup> It is important to note that energy needs differ considerably between women based on their age, weight, activity level and overall health.<sup>4</sup>

### Micronutrient needs

Micronutrients (vitamins and minerals) are molecules needed in small amounts in the body. During pregnancy and breastfeeding, deficiencies of certain micronutrients can be dangerous to both the mother and child. Vitamin and mineral supplements can help to prevent nutrient deficiency, but may cause more harm than good if taken in excessive quantities. For example, if vitamin A is taken in large amounts during pregnancy, a child is more likely to develop birth defects. Some of the most important micronutrients to consider for pregnant and breastfeeding women include folic acid, iron, zinc, selenium, vitamin D and the B vitamins.<sup>4</sup> Folic acid is the synthetic form of folate and is considered one of the most essential nutrients for a developing foetus. The recommended daily intake (RDI) of folate almost doubles during pregnancy to support the rapidly dividing cells of the foetus. Iron is another essential nutrient required for both pregnancy and breastfeeding. Additional iron is needed to support the increase in blood volume that occurs during pregnancy, as well as prevent iron-deficiency anaemia before and after birth. It is important for pregnant women to reach the recommended daily intakes for all essential micronutrients.<sup>1</sup>

### What makes a good 'pregnancy and breastfeeding' shake?

Pregnant and breastfeeding women should strive to meet their increased energy and nutrient requirements through a healthy, nutrient-rich diet.<sup>1,2</sup> A 'pregnancy and breastfeeding shake' does not need to replace a meal, but could be useful in providing an additional source of nutrition.<sup>3</sup> It may be challenging for women to follow a diet that meets the high demands of pregnancy and breastfeeding. In these cases, a supplement shake containing both macro- and micronutrients would be beneficial. Supplementation during pregnancy has been shown to improve the overall weight-gain and linear growth of children at one year of age.<sup>3</sup>

A good supplement should contain balanced amounts of carbohydrates, proteins and fats. Complex carbohydrates

containing fibre should take preference over simple carbohydrates (refined sugars and syrups). Fibre-containing supplement shakes will also help to relieve pregnancy-associated constipation.<sup>1</sup> Protein is the macronutrient essential for the growth of new tissues. During the second half of pregnancy, protein requirements increase significantly to allow for optimal foetal growth. Requirements for certain fats (Omega-3 and Omega-6) also increase. A good supplement should help women to meet these requirements.<sup>1,2</sup>

It would also be important for any nutritional shake for pregnant and breastfeeding women to contain the micronutrients deemed most essential during pregnancy. Although all pregnant women could benefit from vitamin and mineral supplements, some women are more at risk of nutrient deficiencies than others. These include women that follow restrictive diets, smoke, drink alcohol, take drugs or live with diseases such as diabetes.<sup>1,2</sup> Before taking supplements, care should be taken to avoid consuming any single vitamin and mineral in excess, as this may cause harm.<sup>2</sup> Furthermore, there are particular drugs, foods and other substances that could be dangerous when consumed during pregnancy and breastfeeding. Women should consult a doctor or dietitian before deciding to take a pregnancy and breastfeeding supplement.<sup>1</sup>

### Conclusion

Pregnant and breastfeeding women require more energy and nutrients to keep up with the demands of a changing body and a growing foetus or neonate. A woman's dietary habits can significantly affect the development of her baby. Nutritious 'shakes' containing vitamins and minerals, as well as complex carbohydrates, proteins and healthy fats could be beneficial in meeting the nutrient demands of pregnancy and breastfeeding. These 'shakes' should not replace meals, but rather provide additional energy and nutrients to a healthy, balanced diet.

### References

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