



■ NEWS YOU CAN USE

# *Nutrition & Fitness for* *Moms-to-be*

How exciting to be getting ready for this special time of your life! You can plan for that dream nursery, those cute little baby outfits and everything else to welcome your precious little one into this world; but the single most important thing you can do for your baby and yourself is to ensure adequate nutrition and fitness during this defining time of your lives.

A healthy diet is a woman's best friend. It helps boost energy levels, supports mental health, helps you maintain a healthy weight and look your best no matter what stage of life you're in. But, a woman's reproductive years are especially demanding when it comes to good nutrition. In fact pregnancy and breastfeeding are two of the most nutritionally demanding times in a woman's life because it's the time when the body needs enough nutrients to

support the growth and development of a baby, while maintaining the health of the mother's body. Recent research also reveals the importance of mom's nutritional status on the future health of her child. That's why this particular issue of News You Can Use is dedicated to moms-to-be around the world, bringing you the latest research highlights in the area of proper nutrition before, during and after pregnancy.



Nutrients in *NeoLife* healthy pregnancy products

Daily Nutritional **NEEDS** During Pregnancy & Lactation



Creamy Vanilla #2912  
Berries n' Cream #2913  
Rich Chocolate #2914

Pro Vitality+  
#2595

Chelated  
Cal-Mag  
#2722

Some products may not be available in every market. Nutrishake or GR<sup>2</sup> Meal Replacement Protein Shake can be used as a substitute for NeoLifeShake.

NUTRIENT				FUNCTION
	non-pregnant	pregnant	lactating	
<input checked="" type="checkbox"/> Protein (g)	46	71	71	Overall health, growth and for blood production
<input checked="" type="checkbox"/> Omega-3 fatty acids/ DHA (mg)* <sup>2</sup>	600-1200 <sub>total omega 3s</sub> mg	200 <sub>mg</sub> *	200 <sub>mg</sub> *	Brain and vision development
<input checked="" type="checkbox"/> Choline (mg)	425	450	550	Cell formation membrane and brain development
<input checked="" type="checkbox"/> Vitamin A (IU)	2,333	2,567	4,333	Growth and development, healthy skin, teeth, bones, immune function and vision.
<input checked="" type="checkbox"/> Vitamin B <sub>6</sub> (mg)	1.3	1.9	2.0	Red blood cell formation.
<input checked="" type="checkbox"/> Vitamin B <sub>12</sub> (µg)	2.4	2.6	2.8	Red blood cell formation.
<input checked="" type="checkbox"/> Vitamin C (mg)	75	85	120	Repair, resistance to infection, and collagen formation.
<input checked="" type="checkbox"/> Vitamin D (IU)	600	600	600	Aids in calcium absorption, and bone mineralisation.
<input checked="" type="checkbox"/> Vitamin E (mg)	15	15	19	Antioxidant and protects cell membranes.
<input type="checkbox"/> Vitamin K (µg)	90	90	90	Blood clotting and bone development
<input checked="" type="checkbox"/> Calcium (mg)	1,000	1000	1,000	Bones and teeth formation and proper muscle and nerve function
<input checked="" type="checkbox"/> Folate (µg)	400	600	500	Prevents neural tube defects in the foetus; for blood and protein production and cell division
<input checked="" type="checkbox"/> Iodine (µg)	150	220	290	Thyroid hormone production, regulation of metabolism.
<input checked="" type="checkbox"/> Iron (mg)	18	27	9	Production of haemoglobin, that helps transport oxygen.
<input checked="" type="checkbox"/> Magnesium (mg)	320	350-360	310-320	For strong bones and proper nerve and muscle function
<input checked="" type="checkbox"/> Niacin (mg NE)	14	18	17	Healthy skin, nerves, and digestion; helps the body metabolise carbohydrates
<input checked="" type="checkbox"/> Phosphorous (mg)	700	700	700	For the growth and health of bones and teeth
<input checked="" type="checkbox"/> Riboflavin (mg)	1.1	1.4	1.6	Aids in the release of energy to cells
<input checked="" type="checkbox"/> Thiamin (mg)	1.1	1.4	1.4	Helps metabolise carbohydrates into energy.
<input checked="" type="checkbox"/> Zinc (mg)	8	11	12	Aids in the production of many different enzymes and insulin

Source: Food and Nutrition Board  
Institutes of Medicine Dietary Reference  
Intake Reports [www.iom.edu](http://www.iom.edu).

## Pregnancy Planning Starts with Good Nutrition

While many women may wait for a positive pregnancy test as the green light for improving their diet such as stopping alcoholic beverage consumption, and generally adopting healthy lifestyle habits, research suggests that a mom's habits before conception also influence her baby's well-being at birth and for his or her entire lifetime. Because many pregnancies are not planned and the developing foetus is highly susceptible to birth defects and other problems during the first few weeks of pregnancy (when many women may not even realise that they are pregnant), **achieving healthy weight** and getting the recommended amounts of essential nutrients like **calcium, folic acid, essential fatty acids and choline** before pregnancy, is particularly important. Striving to eat a healthy diet rich in a variety of foods is key to getting proper nutrition to ensure optimal maternal health. Most nutrition experts agree that preconception planning for all women should include advice to start taking a prenatal multivitamin/mineral supplement.<sup>1</sup>

### A Healthier Weight Equals a Healthier Pregnancy

In the United States, more than one half of pregnant women are overweight or obese, and 8% of reproductive-aged women are extremely obese, putting them at a greater risk of pregnancy complications<sup>3</sup>. Reducing kilojoule consumption by cutting back on portions and burning more kilojoules through physical activity, can help achieve a healthier weight before becoming pregnant. The use of meal replacement drinks rich in high quality protein may help boost success, too. In a recent randomised, controlled study, researchers investigated the effect of an energy-restricted diet with or without



meal replacements in a group of overweight women. After 12 weeks, both groups lost weight, however the rate of responders (a weight loss of >5%) was higher among the meal replacement users (77%) compared to the control group (50%)<sup>4</sup>.



### RECOMMENDED Pregnancy Weight Gain

Pre-pregnancy BMI (kg/m <sup>2</sup> )		Total Weight Gain (kg)	Rates of Weight Gain* 2nd and 3rd Trimester (kg/week)
Underweight	<18.5	13-18	0.45 (0.4 - 0.6)
Normal weight	18.5-24.9	11-16	0.45 (0.36 - 0.45)
Overweight	25.0-29.9	7-11	0.27 (0.23 - 0.32)
Obese (includes all classes)	≥ 30.0	5-9	0.23 (0.18 - 0.27)



## Common Myths About Pregnancy Weight Gain



### MYTH 1: I need to "eat for two".

**Not True!** Eating for two is not necessary. In fact eating for two may cause you to gain too much weight, which is not good for you or your baby. During the first trimester, you don't require any extra kilojoules. During the second trimester 1400 additional kilojoules a day are recommended and during the last trimester that number increases to 1800 additional kilojoules per day.



### MYTH 2: The more weight I gain, the healthier my baby will be.

**Wrong Again!** Gaining too much weight can increase your risk of having a C-section, early delivery, or a bigger baby, which can complicate the birthing process.



### MYTH 3: I'm at my ideal weight so I don't have to worry about how much weight I gain during pregnancy.

**Truth:** How much weight you need to gain during pregnancy should be discussed with your doctor. If you are at an ideal body weight at the time you become pregnant, the average recommended weight gain during pregnancy is between 11-16 kgs.

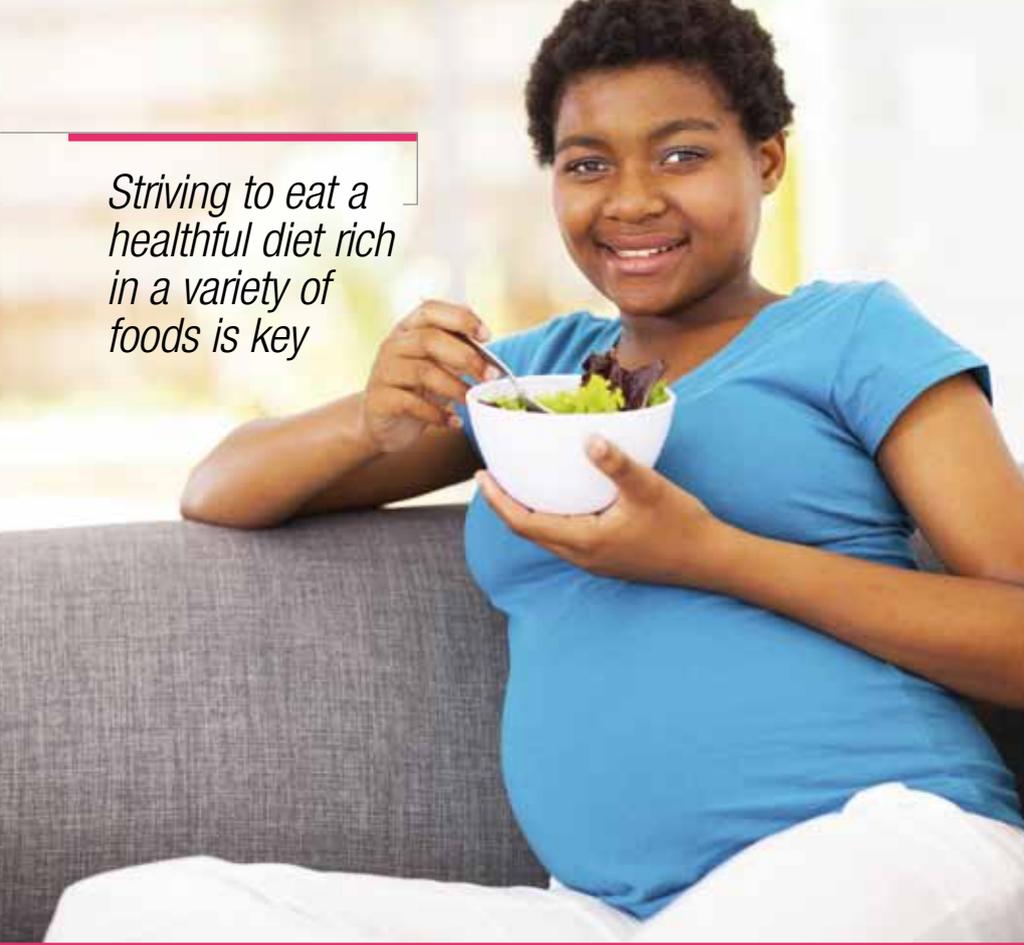
Intake Reports [www.iom.edu](http://www.iom.edu).

Chart adapted from:  
IOM's 2009 report  
*Weight Gain During Pregnancy: Reexamining the Guidelines*.

To calculate BMI go to  
[www.nhlbisupport.com/bmi](http://www.nhlbisupport.com/bmi)  
or [www.gnld.com](http://www.gnld.com)

**NOTE:** Women in their reproductive years should know that the excessive use of vitamin A shortly before and during pregnancy could be harmful to their babies. 1,000 RE=3,330 international units (IU). 10,000 IU per day is considered the tolerable upper limit of preformed vitamin A during pregnancy and lactation.

*Striving to eat a healthful diet rich in a variety of foods is key*



calcium for pregnant women is 1,000 mg a day and some of the best food sources include milk, yoghurt, cheese and some dark leafy green vegetables. Taking supplemental calcium may also be helpful to ensure needs are met, especially for women following a vegan diet.

### *Vitamin D is Important for both Mom and Baby*

Recent evidence suggests that vitamin D deficiency is common during pregnancy especially among vegetarians, women with limited sun exposure, and certain ethnic groups with darker skin. In newborns, maternal vitamin D deficiencies have been associated with skeletal disorders such as rickets and bone fractures<sup>8</sup>.

### *How much Weight Gain is Right?*

The amount of weight gained during pregnancy can affect both the health of the mother and baby. Gaining too much or too little weight can lead to premature births and babies that are born too small or too big, which in turn can impact a baby's future health. Studies have found that excessive weight gain during pregnancy can actually increase the risk of childhood obesity. In one study that followed more than 2,000 pregnant women and their offspring, children of mothers who gained excessive amounts of weight had more than four times the risk of being overweight at age 3, compared to children of mothers who gained an "inadequate" amount of weight<sup>5</sup>. In another population-based study following 513,501 women and their 1,164,750 offspring, it was found that compared to infants of women who gained 8-10 kgs during pregnancy, infants of women who gained more than 24 kgs during pregnancy were twice as likely to weigh more than 4 kgs at birth<sup>6</sup>. Based upon these studies and other evidence, the Institute of Medicine recommends the amount of weight gained during pregnancy be adjusted depending on a woman's pre-pregnancy body weight and Body Mass Index (BMI).

### *Calcium to Help Build Strong Bones*

It has been frequently reported that women of childbearing age do not consume the dietary reference intake for calcium. Women who chronically consume suboptimal amounts of calcium (<500 mg/day) may therefore be at risk for increased bone loss during pregnancy<sup>7</sup>. The recommended dietary intake for

Recent studies suggest that insufficient maternal vitamin D levels may also increase risk of mothers developing gestational diabetes (diabetes during pregnancy)<sup>9</sup>. In a 2012 meta-analysis, researchers found 83% of the studies identified reporting an inverse relationship between circulating vitamin D levels and markers of glucose homeostasis associated with gestational diabetes, or an increased risk of gestational diabetes associated with reduced maternal levels of vitamin D<sup>10</sup>. Although more studies are needed to determine if optimising vitamin D status during pregnancy with supplemental vitamin D can help, ensuring adequate vitamin D intakes during periconception seems prudent. This is important since uncontrolled gestational diabetes is associated with a number of health challenges for newborns and mothers. In newborns these include excessive birth weight, premature birth and an increased risk of developing type 2 diabetes later in life, while in mothers there is an increased risk of high blood pressure, pre-eclampsia, eclampsia and a future increased risk of type 2 diabetes.

### *Omega-3 Fatty Acids for Vision and Brain Development*

The amount of essential fatty acids (omega 6 and omega 3) available to the foetus depends upon how much of each of these the mother eats. Studies suggest if that mother-to-be consumes a typical Western diet the foetus will have access to a much higher concentration of omega 6s than omega 3s. This imbalance may be even more pronounced in pregnant women because many choose to avoid eating fish (one of the richest dietary



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## Ensuring adequate intakes of omega 3s is particularly important before, during and after pregnancy.

sources of omega-3 fatty acids) because of fears of mercury and other toxins present in the fish supply. In fact, the Federal Drug Administration/Environmental Protection Agency Fish Consumption Advisory informs women who may become pregnant, pregnant women, nursing mothers and the parents of young children, about minimising mercury exposure by avoiding certain types of fish that are higher in mercury (for example, shark, swordfish, tilefish and king mackerel)<sup>11</sup>. However, ensuring adequate intakes of omega 3s is particularly important before, during and after pregnancy. DHA is an omega 3 fatty acid that plays an important role in early brain and visual development and as such should be available to the growing foetus during gestation via the mother's diet and continued during lactation and throughout the first several years of a child's life. To ensure women of reproductive age are consuming enough DHA, use of a pure fish oil supplement starting at the time of conception and throughout pregnancy and lactation should be considered.

### *Prenatal DHA Intake also Associated with Infant Immune Support*

The importance of DHA during pregnancy may not only help with early brain and visual development but according to a recent study, DHA intake during pregnancy may also help reduce the incidents of colds and duration of cold symptoms in infants. In a double-blind, placebo-controlled trial published in *Pediatrics*, infants born to mothers who took DHA supplements during pregnancy, experienced shorter duration of cold symptoms such as cough, phlegm and wheezing at 1 month compared to infants of mothers taking a placebo. At 3 months, duration of illness was 14% less for infants in the DHA group. At 6 months, infants in the DHA group had 20%, 13%, 54%, 23% and 25% shorter duration of fever, nasal secretion, difficulty breathing, rash and "other illness", respectively<sup>12</sup>.

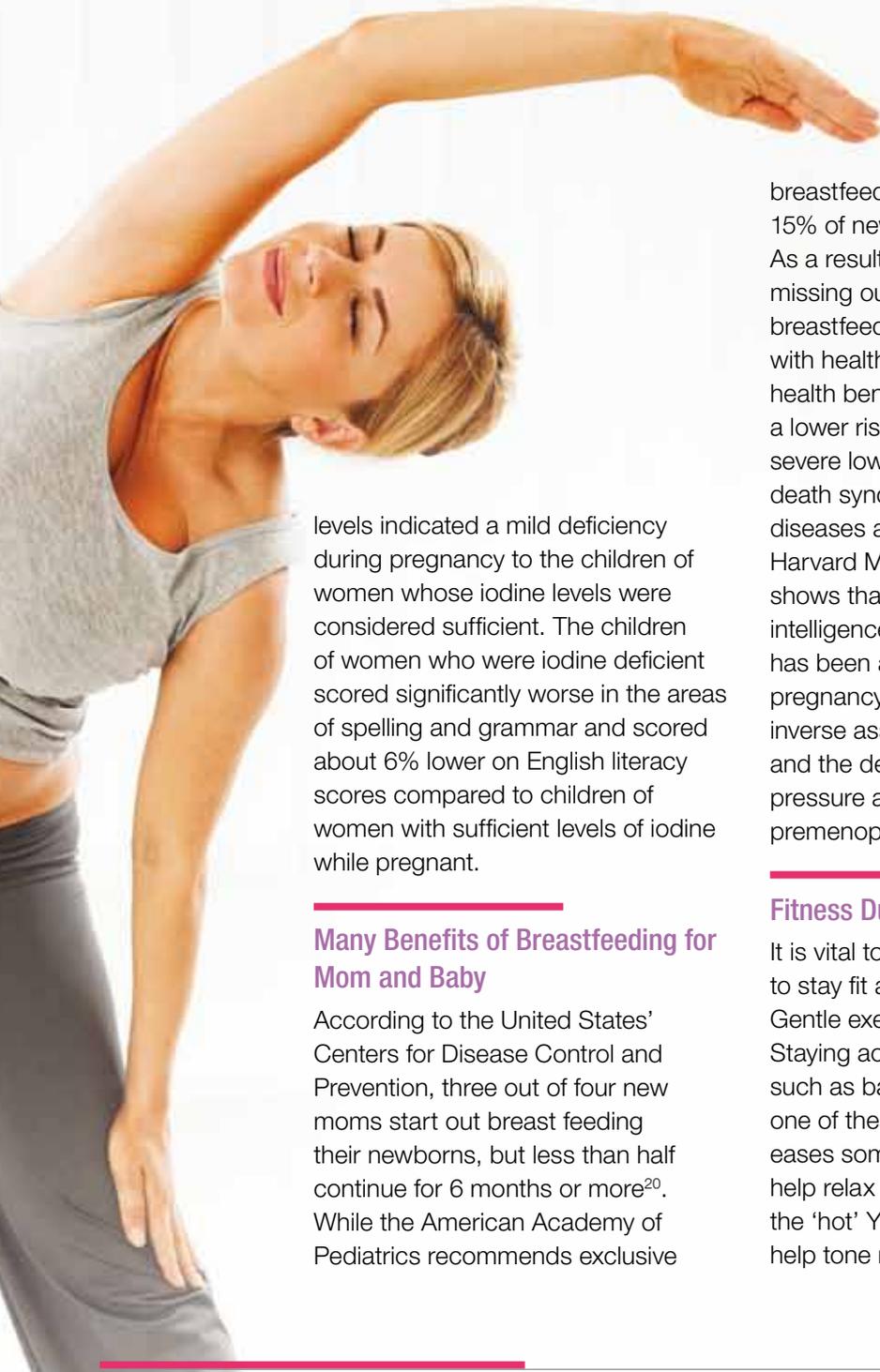
### *Folic Acid and Choline for Prevention of Birth Defects*

The CDC (Centre for Disease Control), the US Preventive Health Task Force, and the Food and Nutrition Board of the National Academy of Sciences Institute of Medicine all recommend that women of reproductive age should be advised to consume 400 µg of folic acid daily obtained from fortified foods or supplements, or both<sup>13</sup>. That's because this B vitamin is especially important during phases of rapid cell growth and because of its involvement in the synthesis of DNA and other critical cell components. It is clear from clinical trial evidence that when women take folic acid supplements periconceptionally, a substantial proportion of neural tube birth defects like spina bifida and anencephaly are prevented<sup>14</sup>. Scientists estimate that periconception use of supplemental folic acid has the potential to reduce neural tube defects by 50% to 60%<sup>15</sup>. In addition, all women are advised to consume a balanced, healthy diet that includes folate-rich foods<sup>16</sup>. Folate is the form of the vitamin that occurs naturally in a variety of foods with spinach and other dark leafy greens, asparagus and brussel sprouts being some of the best sources.

Many women in their childbearing years also fall short on choline, another nutrient that appears to play a role in brain development and in preventing neural tube defects. A case-controlled study published in the *American Journal of Epidemiology* found that insufficient maternal intakes of choline during pregnancy were associated with a fourfold increase in the risk of having a pregnancy affected by a neural tube defect<sup>17</sup>. Higher choline intake was also associated with a reduced risk of neural tube defects, independent of folate intake. Women require 425 mgs of choline daily and more when pregnant and lactating<sup>18</sup>.

### *Iodine Deficiency In Pregnancy Tied to Kids' Poor Test Scores*

Iodine is a trace mineral and essential component of the thyroid hormones triiodothyronine (T<sub>3</sub>) and thyroxine (T<sub>4</sub>), and is therefore required for normal thyroid function. These hormones also help regulate metabolism and are important for proper bone and brain development in infants, especially during pregnancy. According to data from the National Health Examination and Nutrition Survey (NHANES 2005-2008), more than 50% of pregnant women surveyed were considered iodine insufficient. And according to a new study conducted in Australia, mothers who are mildly iodine deficient are more likely to have children who perform poorly in spelling, grammar and literacy<sup>19</sup>. In this study, researchers compared the standardised test scores of nine year old children born to women who's urinary iodine



levels indicated a mild deficiency during pregnancy to the children of women whose iodine levels were considered sufficient. The children of women who were iodine deficient scored significantly worse in the areas of spelling and grammar and scored about 6% lower on English literacy scores compared to children of women with sufficient levels of iodine while pregnant.

### Many Benefits of Breastfeeding for Mom and Baby

According to the United States' Centers for Disease Control and Prevention, three out of four new moms start out breast feeding their newborns, but less than half continue for 6 months or more<sup>20</sup>. While the American Academy of Pediatrics recommends exclusive

breastfeeding for 6 months, research indicates only 15% of new moms meet this recommendation<sup>21</sup>. As a result, many newborns and their mothers are missing out on many health benefits associated with breastfeeding. Studies have found when compared with health outcomes among formula-fed children, the health benefits associated with breastfeeding include a lower risk of ear infections, gastroenteritis, diarrhoea, severe lower respiratory infections, asthma, sudden infant death syndrome, obesity as well as other childhood diseases and health conditions<sup>22</sup>. A recent study by Harvard Medical School published in *JAMA Pediatrics* shows that breast fed babies may score better on intelligence tests<sup>23</sup>. For moms, exclusive breastfeeding has been associated with a more rapid return to pre-pregnancy weight and additional studies suggest an inverse association between lifetime duration of lactation and the development of rheumatoid arthritis, high blood pressure and blood lipids, heart disease, diabetes and premenopausal breast and ovarian cancer<sup>22</sup>.

### Fitness During Pregnancy

It is vital to maintain an active lifestyle during pregnancy to stay fit and prepare for the arrival of your new baby. Gentle exercise is good for both the mom and the baby. Staying active can also help with common complaints such as back pain or even sleep troubles. Swimming is one of the best exercises, gentle on your joints and it also eases some of the weight of your baby bulge. Yoga can help relax you as well as help build core strength. Avoid the 'hot' Yoga. Walking and light strength training can help tone muscles and elevate your mood as well. ■

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