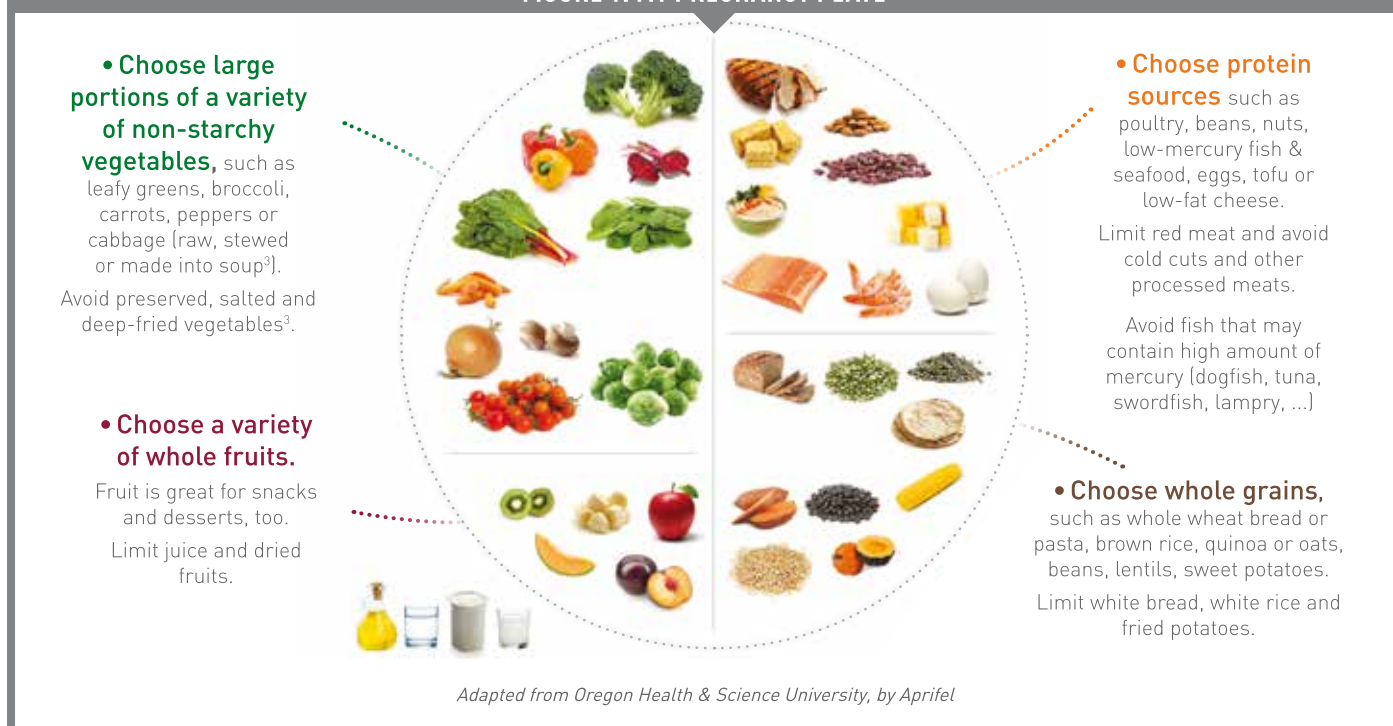


# F&V CONSUMPTION DURING PREGNANCY

- ▶ Pregnancy is a **unique time in the life course** where the short and long-term health of mother and baby can be influenced. It is the best time to introduce diet and physical activity based interventions effective in reducing gestational weight gain and caesarean section odds<sup>1</sup>, as women are **open to change** and very **motivated** by the health of their child<sup>2</sup>.
- ▶ Inadequate nutrition and excessive weight gain during pregnancy have **negative impacts** on the **duration and outcome of pregnancy** including gestational hypertension and diabetes, preterm delivery, and foetal growth restriction, future health of offsprings by increasing the risk of non-communicable diseases (NCDs)<sup>3</sup>.
- ▶ Before and during pregnancy, **health professionals are key actors** to deliver clear information for women and their partners about the role of a healthy diet characterized by high intake of F&V on the long-term health of the mother and the child.

FIGURE 1: MY PREGNANCY PLATE<sup>4</sup>



## Key recommendations during pregnancy

### 1. Comprehensive balanced diet

All pregnant women do not require systematic vitamin and minerals supplements with the exception of vitamin D, folic acid, iron and iodine in some cases<sup>3</sup>.

A comprehensive balanced diet is one that **includes all product groups**.

- **At least 5 servings of F&V** (400-500g) are recommended per day<sup>3</sup>. The more the mother consumes various F&V during pregnancy, the more her child will accept to try new F&V later in life<sup>5</sup>.
- Cereals: with more than half of them **wholegrain products**.
- Dairy products: **low-fat, without sugar** or artificial sweeteners.
- Protein-containing foods: preferably **lean meat, fish** (2 times/week), eggs, and **plant-based foods** such as legumes (beans, lentils, and peas), **nuts** and **seeds**.
- Oils: with sufficient quantities of **mono-unsaturated** fats (olive oil, grapeseed oil) and **ω-3 fatty acids** (colza)<sup>3</sup>.

### 2. Eating well and not more

Pregnant women require only a **slight increase in energy and in body weight** (Table 1). Energy intake should be increased from

100 kcal/day during the 1<sup>st</sup> trimester to 300 kcal/day during the 3<sup>rd</sup>.

This slight increase in energy can be provided by **adding more F&V** to the meal because they can help in body weight control due to their **low-energy density and satietogenic effect**<sup>6</sup>.

**F&V are highly recommended** during pregnancy because they contain dietary fibers, vitamins and minerals (Figure 2).

▶ Table 1: Recommended weight gain during pregnancy based on pre-pregnancy BMI<sup>3</sup>

PRE-PREGNANCY BMI (KG/M <sup>2</sup> )*	RECOMMENDED WEIGHT GAIN (KG)
Underweight < 18.9	13 to 18
Normal weight 18.9–24.9	10 to 16
Overweight BMI 25–29.9	7 to 11
Obese > 30	5 to 9

\* FDs/GPs are advised to avoid direct reference to BMI category names and to use objective language, such as in the following sentence: 'On the basis of your pre-pregnancy weight, you should aim to gain xx–xx kg for the healthiest pregnancy possible' (Table 1).

Also, pregnant women should maintain good glycemic control. There are many **maternal benefits following introduction of the low glycemic index diet**:

1. **Lower glycaemic load** in 2<sup>nd</sup> and 3<sup>rd</sup> trimesters.
2. **Less gestational weight gain** of 1.3 kg.
3. **Improved glucose homeostasis**.
4. **Improved nutrient and food intakes**: High fiber intake, with increase of F&V consumption<sup>9</sup>.

### REGULAR MODERATE PHYSICAL ACTIVITY

#### Physical activity improve the health of the mother and the child.

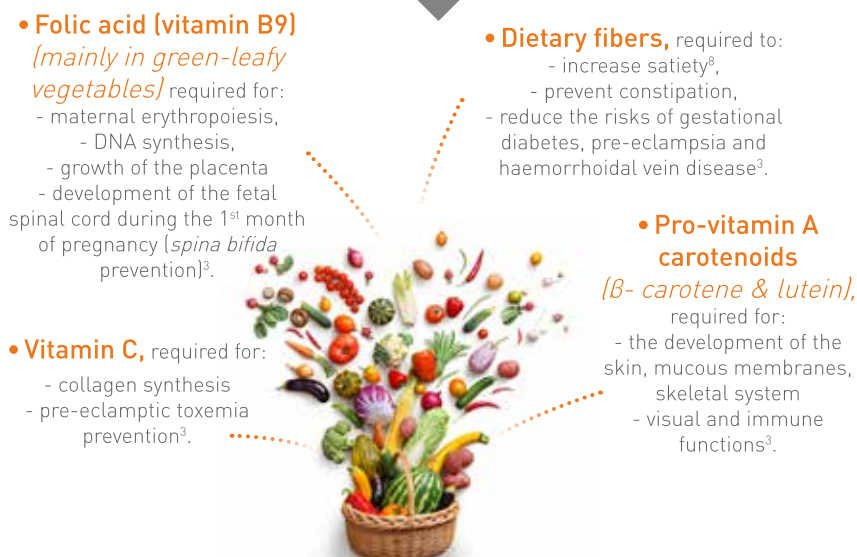
It reduces the risks of gestational diabetes and pre-eclampsia, help control weight gain, and promote psycho-emotional health.

Pregnant women should:

- **be active everyday**: routine activities and physical exercise (if there's no medical contraindication);
- **engage in sports involving diverse muscle groups** (e.g. walking, cycling, swimming);
- **avoid sports that could result in trauma or falls** (e.g. combat sports, diving, jumping)<sup>3</sup>.



FIGURE 2 : ROLE OF SOME NUTRIENTS THAT F&V CONTAIN

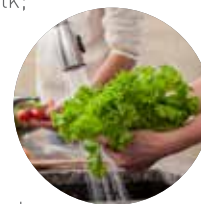


### SAFE NUTRITION

During pregnancy, the **immune system is partially suppressed** which increase the risk for food born infections such as *Toxoplasma gondii* (found in uncooked animal-based products, unwashed vegetables and berries) and *Listeria monocytogenes* (found in improperly stored products).

To avoid infections, these recommendations should be followed:

- Avoid **animal-based uncooked products** : raw meat/eggs/fish/seafood, undercooked meat (ham, sausages), smoked fish, unpasteurized milk;
- Avoid **uncooked and sprouted seeds, grain and beans**;
- Avoid **soft cheese** (brie, feta, blue cheese) unless the product was prepared from pasteurized milk;
- **Wash carefully** vegetables, salad leaves and fruits;
- **Consume immediately food** after cooking;
- **Hygiene requirements**: hands washed, food adequately stored, and kitchen utensils separated for cooked and uncooked products<sup>3</sup>.



### Cases for special attention

Special attention and individualized dietary recommendations should be made to pregnant women in the following cases:

- **Maternal obesity** (BMI > 30 kg/m<sup>2</sup>), associated with higher risks for spontaneous abortion, premature birth, gestational diabetes, and arterial hypertension for the mother and a higher risk for increased body mass, heart disease and neural tube defect for the newborn.

- **Adolescent pregnancy**, often accompanied by a poor diet, alcohol consumption and smoking: - main risk factors for mother and child's health.

- **Pregnant women with a vegan, fruitarian or macrobiotic diet** who have risk protein, ω-3 fatty acids, multiple vitamin (especially vitamin B12) or mineral deficiency (i.e. zinc)<sup>3</sup>.



For further information:

- figure 3 of sheet 5 - *Glycemic index definition*
- sheet 12 "*F&V: energy, nutrients and claims*"