

# Nutrition during pregnancy and early years



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Alimentação na gravidez  
e na infância

गर्भावस्था र शिशु अवस्थामा  
आवश्यक पोषण

孕期和幼儿时期的饮食

स्वस्थ भोजन के लिए सुझाव विकल्प

গর্ভাবস্থায় এবং প্রাথমিক  
বছরগুলিতে পুষ্টি



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\*

ACES Lisboa Central  
ACES Lisboa Ocidental e Oeiras  
ACES Lisboa Norte

\*\*

Farsana  
Kamal Bhattarai  
Manpreet Kaur  
Shiv Kumar Singh  
Yanli Wu

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# Framing

Our body is designed to grow and behave differently at different stages of life and in different circumstances. As we grow, our body's dietary needs will change. These changes will continue throughout each life stage, with different requirements for calories, protein, vitamins, and minerals at each age and according to our lifestyle at specific points in time.

Thus, the “fuel to run our body” that is the food we consume, should be adequate to specific requirements and circumstances in each phase. This of course also applies to changing physical conditions, such as, for example, pregnancy.

At the same time, cultural heritage also influences the foods we choose and eat.





# 1. Nutrition During Pregnancy

Eating habits during pregnancy directly influence both the pregnant person's and the foetus's health, as well as how successful breastfeeding will be, which in turn influences the child's health during early years and later in life. A healthy nutrition before pregnancy, where possible, and during the whole pregnancy can prevent complications during pregnancy, such as gestation diabetes, changes in the foetus's growth and increased risks of complication during delivery.

During Pregnancy, women tend to be more selective in their daily nutrition. In many cases, they are consulting their family members and friends on daily food choices. They also rely on their feelings and experiences of other mothers they know who have already given birth.

**If you feel overwhelmed and have not had the direct experience of another pregnant woman close to you sharing about being pregnant, it may make you feel safer and more comfortable to ask a health professional to facilitate you meeting other pregnant women** - maybe joining a group - to share about your pregnancy process, to gain understanding about this phase in your life, and to be close to a support network.

## From the Groundstigator's lens

*«Before becoming a mother, I used to eat anything anytime, but after giving birth I started consuming less coffee and would never drink coffee in the evening. I put on weight after delivery, so post-delivery I stopped eating oily and sugary foods. I started paying more attention to protein intake and multivitamins»*

Some Indian women start eating mixed nuts and ghee [clarified butter] from the 9th month of pregnancy and while breastfeeding. It is believed that ghee also helps baby to move out easily during the delivery.

In Bangladeshi culture it is thought that having pineapple during pregnancy can cause abortion or loss of the baby. Also, eating Duck meat during pregnancy is thought to lead to change in their baby's voice into quacking sound...

## ► 1.1 Watching your weight

Pregnancy is not an appropriate time for a weight loss restrictive diet. It is normal to gain weight during pregnancy, especially after the 3rd month of pregnancy; however, it needs to be controlled. Obesity before and during pregnancy could cause complications during gestation (such as gestational diabetes, hypertension, preeclampsia, and eclampsia that is characterised by high blood pressure and damage to another organ system – which may in turn lead to death of the foetus or mother if not treated, post-partum haemorrhages, and possible anomalies for the baby (being under or overweight, congenital anomalies, future cardiovascular diseases in their adult life).

Following a healthy eating regime during pregnancy is essential to ensure an adequate growth of the foetus and the mother's own well-being. Also, it positively influences the baby's future health and can contribute to effective eating habits in the future. In truth, nutrition recommendations for the pregnancy period are not very different to those applicable to adult population in general; however, the pregnant person has increased needs of energy and nutrients that vary according to the gestation semester. This doesn't imply eating "for two", on the contrary it is about adjusting dietary needs to each human involved!



It is important to eat various times a day – on average 5-6 times at 2–3-hour intervals. Weight gain during pregnancy is a physiological and positive reaction, as it is partly due to an increase of body fat – crucial to protect the baby and to prepare for breastfeeding – and partly to the baby’s own weight, placenta, amniotic liquid (the liquid that protects and envelops the baby), and increase quantity of blood, off of which are really paramount for the baby’s own health. Most pregnancy weight is gained during the 2nd and 3rd terms, whereby weight gained in the first term should be

minimal. The more is the excess weight of the pregnant person, the least is the recommended weight gain; as way of example, women who feature normal weight before pregnancy should increase by 11,5kg / 25 pounds and only up to 16kg / 35 pounds (that is 0,4kg(0,9 pounds per week). Should the person be below their normal weight or carrying twins, their weight gain ratio should be higher, unless they were previously overweight, in which case their weight gain should be controlled and feature between 7kg/15,2pounds and 11,5kg/25 pounds during pregnancy.





## ► 1.2 What you should eat

▲ **Water:** 1,5lt to 2lt per day (that is more or less 8 to 10 glasses of water).

8 TO  
10 GLASSES



▲ **Vegetables** (they should occupy at least half of a dish in your meal): cress, savoy cabbage, beetroot, Brussels sprouts, asparagus, spinach, lettuce, rucola, broccoli, red or green cabbage, bamboo shoots, bean sprouts, bitter melon, bok choy, cabbage, carrots, chillies, daikon, eggplant / aubergine, kumquats, leeks, lemons, lotus root, kale, kombu, mushrooms, seaweed, mustard greens, green and red bell pepper, peppers, pineapple, pumpkin, scallions, seaweed, snow peas, sweet potatoes, taro root, turnips, water chestnuts, among others. Miso and tofu can be substitutes to meat or fish protein – and therefore should take up the equivalent space to protein on your dish.

▲ **Fresh fruit:** 3-4 pieces of fruit per day depending on the type of fruit; can be eaten at any time of the day. Also, at least 1 citrus fruit after your meal, such as a kiwi, an orange, a lemon, a lime, a grapefruit, a tangerine (they are all rich in vitamin C, which increases your iron absorption).

3 TO  
4 PIECES



▲ **Green and dry pulses** (2-3 soup spoons once or twice a day): lentils, peas, kidney beans, adzuki and edamame and mung beans, chickpeas, favas, lupine, soy nuts and sprouts, fermented soy products (tofu, miso, hawaijar, seitan). They are sources of iron and proteins, and they also prevent obstipation.



▲ **Dry fruit, nuts and seeds:** 20g/0,04 pounds, 4 times per week. Walnut, almonds, cashew nuts, pine nuts, hazelnuts, peanuts, sesame seed, nuts, seeds.

▲ **Cereal** (consumed with moderation, and preferably Brown cereal): rice, pasta; brown bread or dark bread, cereals, barley, buckwheat, millet, oat, noodles (soba, ramen, rice, udon).



2 TO 3  
PORTIONS



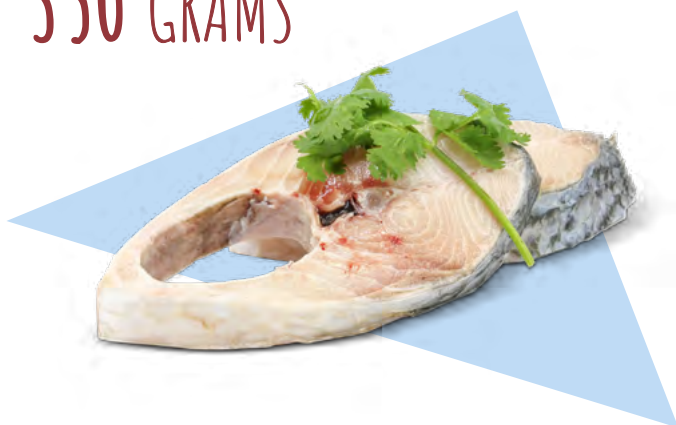
▲ **Dairy products** (2-3 portions per day): milk, paneer, yoghurts (a source of calcium and protein), chaas, lassi, dahi. Hermetically packed cottage cheese and curd, mozzarella, feta, cream cheese, ricotta. Cured cheese such as cheddar, flamingo, gouda, Emmental, edam, parmesan. It is crucial to guarantee that any derivatives are prepared with pasteurised milk, in order to prevent infections.

▲ **White meats and poultry** (100gr/0,22 pounds once or twice a day): rabbit, chicken, turkey, duck.



100 GRAMS

233 TO  
350 GRAMS



▲ **Fish** (233gr / 0,5 pounds to 350gr/0,8 pounds per week, that is about 120gr twice or three times per week): An average consumption of 3 portions of low mercury fish per week is recommended, such as sardines, cod, hilsha, herring, hake and sole, sea bream, seabass, trout, plaice, anchovies, tuna (in numerous varieties including tinned).

▲ **Eggs** (1-2 per day), preferably boiled.

**Note:** A total of about 200gr per day of eggs, meat or fish is recommended.



## ► 1.3 What to avoid eating

Several ingredients and condiments as well as uncontrolled quantities of others, can affect the development of the foetus, the mother's own health, create glycaemic unbalance, and increase the risk of complications during the baby's delivery. Therefore, it is recommended to take good care and attention with foods to be avoided or reduced.

▲ **Salt** (max. 1 teaspoon per day) as it increases risk of hypertension. As an alternative, you can use herbs such as parsley, coriander, oregano, chives, thyme, basil and others.



▲ **Saturated fats** increase risk of obesity and of weight gain. That is: butter, cream, palm and coconut and sunflower oil. Use "healthy fats" instead, such as olive oil. Some foods too contain healthy fats and therefore can be used as substitutes: salmon, tuna, sardines, nuts, avocado are all good examples.

▲ **Sweets should be completely avoided during pregnancy** or eaten only on very special and rare occasions. Examples of foods to avoid may be sugar, honey, coconut milk, condensed and evaporated milk, bakery sweets (cakes, and pastries), biscuits and cookies, sweet treats like barfi, laddu, rasmalai, pendas, gulab jamun; fruit squash, corn syrup, ice-creams, very sugary chocolates like twix, kit-kat, maltesers, etc.





▲ **Non-pasteurised milk and cheeses** (e.g. Brie, camembert, Roquefort, goat) and cured and smoked meats (chorizo, ham, etc.), patés and dips (meat, fish, egg, vegetarian patés, sauces and mayonnaise). Dips can only be consumed when all ingredients it is made of have been well cooked.



▲ **Tea and coffee** in various cultures, it is recommended to avoid caffeine products (coffee, coke, black tea or teas with theine, etc.) during pregnancy. Should you choose to consume them, you can only consume a maximum of 1 cup of tea or 2 coffees per day, preferably outside main meals (that is 1-2 hours before or after a meal), not to affect iron absorption from fruit and vegetables.

▲ **Alcohol and fermented drinks** like kombucha, cider, kefir (which may contain small percentages of alcohol). It is important to avoid these as they may affect the foetus's growth.

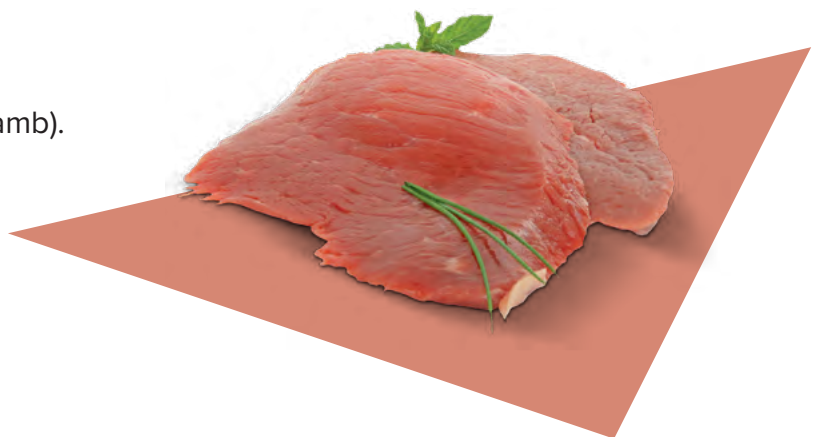


▲ **Ready-made meals must be avoided due to increasing risk of cardiovascular issues** such as obesity, hypertension, high cholesterol, etc. as well as of infections, as food security and freshness of ingredients is not safeguarded. Pre-packaged meals also include ready-made packaged meals including salads, meat, fish, eggs, noodles and rice, pasta, sauces, sandwiches with meat/fish/egg or sauces, quiches, croquets, rissois, pakoras, pani-puris and samosas when they come as ready-made pastries or snacks. This is because they usually all contain a highpercentage of salt and fat, additives that increase the risk of cardiovascular illnesses, and also because we don't know how they have been prepared.

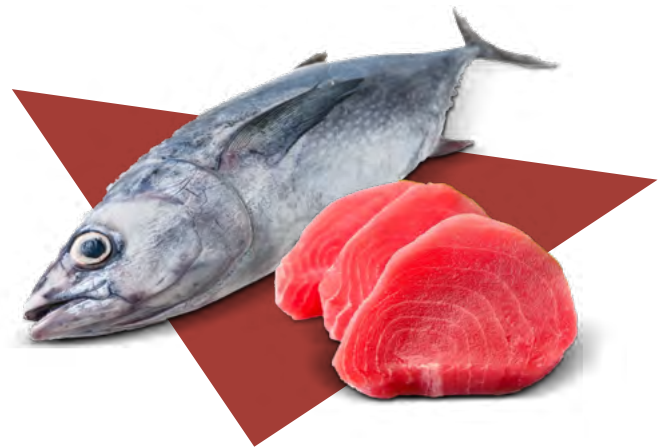


▲ **Raw, processed, not-well-done, and canned meat** may contain parasites and micro-organisms that damage your health and that may give you toxoplasmosis (which causes malformation of the foetus and abortion during the first months of pregnancy) or salmonella (a food infection that triggers fever, diarrhoea, abdominal cholic and vomit, which can lead to serious illnesses in pregnant women and, ultimately, death).

▲ **Red meats** (beef, pork, goat, lamb).



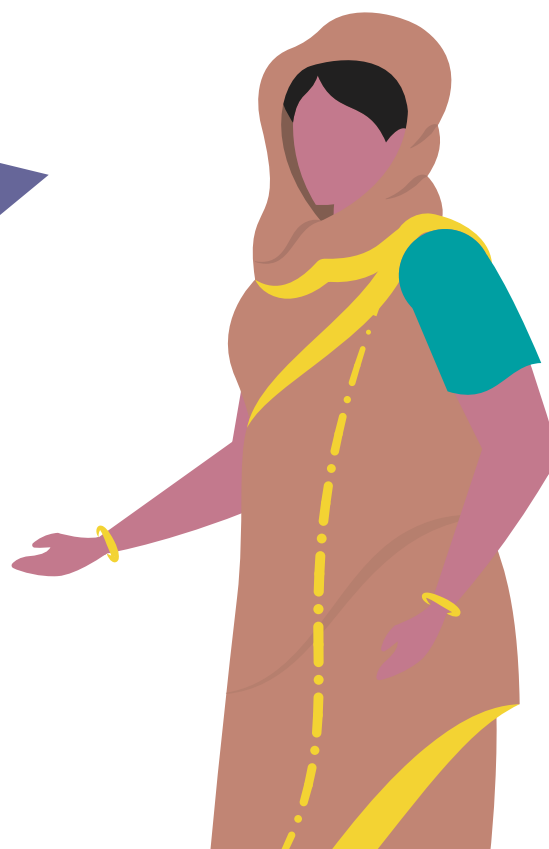
▲ **Fish with a high percentage of methylmercury** (a heavy metal that accumulates in vital organs and that may cause malformation and illnesses). Examples may be: shark, dogfish, blue shark, tilefish, swordfish, mackerel, ceviche, sushi and sashimi, refrigerated smoked fish (smoked salmon, fresh tuna, mackerel) and fish pâtés and shellfish. You need to make sure the fish is very well cooked, and therefore sushi is to be totally avoided as raw fish may trigger intoxications and food poisoning. Frozen fish may be a better option due to freezing temperatures killing some risky micro-organisms.



▲ **Shellfish:** During pregnancy, women should not eat shellfish, such as crabs, prawns, shrimp, clams, oysters, bivalves, etc. unless they are extremely fresh (which is quite difficult to ascertain safely) or very well cooked in boiling water. Shellfish dips and pâtés shouldn't be eaten at all.

Did you know that pregnant women in some Indian communities are told to avoid **peanuts, sunflower seeds,** and **sesame**, among other seeds and dry fruits?

Also, according to interviews carried out by Groundstigators, whilst during pregnancy, women are told not to eat shellfish - especially crabs - despite knowing what to avoid, some find it difficult not to eat things they really like.



In traditional Chinese Medicine, food is an expression of Qi – our vital energy – and divided into Yin, or “cold” energy foods (passive, tranquil, dark) and Yang or “hot” energy foods (active, light, bustling), on the basis that all foods have a thermal nature with specific effects on our body. Thus, foods that are believed to carry a “hot” energy, such as garlic or cinnamon, can trigger body warming, whilst “cold” energy foods, as for example tomatoes, rabbit, spinach or cucumber, can make body temperature drop, and stimulate spontaneous abortion in pregnant women. By way of example, according to this set of beliefs, eating too much ‘hot energy’ food can trigger sore throat, inflammation, or cough; whilst eating excessive ‘cold energy’ foods during pregnancy can cause diarrhoea.

**Kastner, Joerg (2004). Chinese Nutrition Therapy - Dietetics in Traditional Chinese Medicine. Stuttgart, Thieme**





## ► 1.4 Supplements:

- **Folic Acid** (reduces risk of the baby's malformations) is recommended as a supplement to take during the 3 months prior to starting a pregnancy (when planned) as well as during the first 3 months of pregnancy
- **Iron** (prevents anemia).
- **Iodine** (important for the baby's cognitive development). In Portugal, it is recommended starting from preconception, and as intake during pregnancy and while breastfeeding, except for women who suffer from thyroid conditions. As a substitute of iodine supplement, you can use iodate salt in your cooking process.



## ► 1.5 Vegetarian diets

- Pregnant vegetarian individuals should maintain a varied diet, to include vegetables, cereal, pulses, fruit, dry fruits and seeds, vegetable fat, herbs and spices, grouping these foods in different meals within the same day.
- Pulses need to be washed thoroughly and properly and need to be very well cooked to the end before consumption. This refers to beans, lentils, chickpeas, soja, tofu and its derivatives; cereals, dry fruits (hazelnuts, almonds, peanuts, cashew nuts, walnuts); seeds (linseeds, pine nuts, pumpkin, mustard, sesame and sunflower seeds), which are all sufficiently proteinic to achieve daily needs. Furthermore, nuts and seeds can be a source of iron, selenium and Omega 3; these help to prevent the iron deficiency that is common in pregnancy, for the normal functioning of the immune system and development of the fetal central nervous system and retina. In some cultures, it is advised to avoid certain seeds and dry fruits, such as sesame, sunflower seeds, Peanuts; these can be substituted by others of the same type (for example, walnuts, almonds, hazelnuts, etc.).
- In the 2nd and 3rd term of pregnancy, protein needs increase, and that is why you must add a portion of rice, pasta, or pulses to your main meal, or increase your intake of oleaginous fruits (that is almonds, hazelnuts, walnuts, etc.) or soja yoghurt to your intermediate food intake in between meals. Pre-soaking pulses in water and peeling them before cooking increases protein absorption and prevents obstipation.
- Dairy products and eggs are good sources of protein (should your diet be ovolactovegetarian).
- If you don't consume any dairy products, calcium can be found in fish conserves, dark leaf vegetables (green cabbage, ruçola, cress), almonds, hazelnuts and seeds, calcium fortified foods such as vegetable soja drinks, breakfast cereal (in this case, read the labels to verify).
- To compensate the lack of B12 vitamin in natural vegetable products, artificially fortified foods containing B12 should be eaten. Examples may be: vegetable drinks (soja/almond/ rice milk), cereal (corn flakes), vegetable yoghurt (you should read the labels to check they contain B12 supplement). Also, B12 supplement can be prescribed by your GP.
- Eating one piece of citrus fruit (orange, tangerine, kiwi) after a vegetable meal increases your iron intake.

GRUPOS ALIMENTARES	MULHER ADULTA	1º T	2º T	3º T E LACTAÇÃO
Cereais, Tubérculos e Frutos Amiláceos	6 porções	+ 0.5 porções (6.5 porções)	+ 1 porção (7 porções)	7 porções
Alimentos fornecedores de proteína	4.5 porções	4.5 porções	+ 0.5 porções (5)	+ 1 porções (6)
Hortícolas	3 porções (pelo menos 1 porção de hortaliças)	3 porções	3 porções	3 porções
Frutas	3 porções	3 porções	3 porções	+ 1 porção (4 porções)
Frutos oleaginosos e sementes	2 porções	2 porções	+ 1 porção (3)	3 porções
Óleos e gorduras vegetais	1 porção	1 porção	1 porção	1 porção
	Valor energético estimado: 1981 kcal; Proteína: 92 g; Hidratos de Carbono: 250 g; Lípidos: 59 g; Fibra: 57 g	+ 74 kcal; + 2.0 g de proteína	+ 314 kcal; + 12 g de proteína	+ 473 kcal; + 23 g de proteína

Tabela 5 | Guia alimentar para a mulher em idade fértil, 2º e 3º trimestres da gravidez, e lactação.

**Source:**  
Associação Vegetariana Portuguesa. Alimentação Vegetariana: GRÁVIDAS BEBÉS CRIANÇAS. September 2021

If you have any specific restrictions or if you follow a vegan diet, please mention it to your primary healthcare provider, family doctor, nurse and ask for nutrition advice to follow during pregnancy.

The palm of your hand (a handful) provides a good measure for portions of your meal, whereby the equivalent of one palm is suggested for row cereal before cooking (that is, rice, pasta, noodles, udon), dry pulses before cooking them, and dry nuts. For fresh fruit, one portion would be one piece of medium fruit, such as an apple.

Tabela 2. **Porções e equivalentes para cada um dos grupos da Roda dos Alimentos aconselhadas por dia [96] e para o grupo dos frutos oleaginosos.**

<b>Óleos e gorduras   1 porção</b>
1 colher de sopa de azeite/óleo (10 g) 1 colher de sobremesa de manteiga/margarina (15 g)
<b>Leguminosas   1 porção</b>
1 colher de sopa de leguminosas secas cruas (25 g) 3 colheres de sopa de leguminosas frescas cruas (80 g) (ex: feijão, grão-de-bico, lentilhas)
<b>Laticínios   1 porção</b>
1 chávena de leite (250 mL) 1 iogurte líquido ou 1 e ½ iogurte sólido (200 g) 2 fatias finas de queijo (40 g)
<b>Hortícolas   1 porção</b>
2 chávenas almoçadeiras de hortícolas crus (180 g) 1 chávena almoçadeira de hortícolas cozinhados (140 g)
<b>Fruta   1 porção</b>
1 peça de fruta - tamanho médio (160 g)
<b>Carne, pescado e ovos   1 porção</b>
Carne/pescado crus (30 g) Carne/pescado cozinhados (25 g) 1 ovo - tamanho médio
<b>Cereais e derivados, tubérculos   1 porção</b>
1 pão (50 g) 1 fatia fina de broa (70 g) 1 e 1/2 batata - tamanho médio (125 g) 5 colheres de sopa de cereais de pequeno-almoço (35 g) 6 bolachas - tipo Maria/água e sal (35 g) 2 colheres de sopa de arroz/massa crus (35 g) 4 colheres de sopa de arroz/massa cozinhados (110 g)
<b>Frutos oleaginosos   1 porção</b>
Frutos oleaginosos, como nozes, avelãs e amêndoas (20 g)

Figura 14. Planos alimentares para mulher em idade fértil e para o 1º e 2º/3º trimestres da gravidez.

MULHER EM IDADE FÉRTIL	1º TRIMESTRE	2º E 3º TRIMESTRE
Porções diárias recomendadas para uma mulher em idade fértil de 60 kg e 165 cm	Acrescenta ao dia alimentar da mulher em idade fértil	Acrescenta ao dia alimentar do primeiro trimestre
<b>Óleos e gorduras</b>	+ 1 porção de laticínios Garantir uma ingestão adequada de produtos hortícolas e fruta	+ 1 porção de fruta ou hortícolas + 1,5 porção cereais e derivados, tubérculos + 1 porção de carne, pescado e ovos + porção de 15-20g de frutos oleaginosos
2,5 porções	<b>Laticínios</b>	<b>Laticínios</b>
<b>Leguminosas</b>	3 porções	3 porções
1 porções	<b>Hortícolas</b>	<b>Hortícolas</b>
<b>Laticínios</b>	3 porções (pelo menos), dando preferências a hortícolas de folha verde e a hortícolas coloridos	3 porções (pelo menos), dando preferências a hortícolas de folha verde e a hortícolas coloridos
2 porções	<b>Fruta</b>	<b>Fruta</b>
<b>Hortícolas</b>	3 porções (pelo menos), sendo uma peça de fruta por dia rica em vitamina C (laranja, tangerina, kiwi)	4 porções (pelo menos), sendo uma peça de fruta por dia rica em vitamina C (laranja, tangerina, kiwi)
3 porções	+ 70 kcal e + 0,52 g de Proteína (comparativamente às recomendações da preconceção)	<b>Carne, pescado e ovos</b>
<b>Fruta</b>		4,5 porções
3 porções		<b>Cereais e derivados, tubérculos</b>
<b>Carne, pescado e ovos</b>		8,5 porções
3,5 porções		<b>Frutos oleaginosos*</b>
<b>Cereais e derivados, tubérculos</b>		1 porção
7 porções		+ 500 kcal e + 23 g de Proteína (comparativamente ao primeiro trimestre)
Valor Energético: 1998 kcal Proteína: 87,4 g   Hidratos de Carbono: 262,3 g   Lípidos: 66,6 g		

\*Uma porção de 20 g de frutos oleaginosos também poderá estar presente no dia alimentar da mulher em idade fértil e da mulher grávida no 1º trimestre, dado o seu valor nutricional.

**Source:** DGS - Manual “Alimentação e Nutrição na Gravidez” [https://nutrimento.pt/activeapp/wp-content/uploads/2021/03/ManualGravidez\\_Final-3Marc%CC%A7o2021.pdf](https://nutrimento.pt/activeapp/wp-content/uploads/2021/03/ManualGravidez_Final-3Marc%CC%A7o2021.pdf)

## ► 1.6 Other specific nutrition measures to be followed during pregnancy, in view of avoiding harmful infections

- Wash your hands properly with running water and soap before and after handling foods, being close to animals, gardening.
- Wash fruit and vegetables very well before eating them raw. Avoid eating out or at restaurants, cafés, stalls and shops where you don't know if ingredients are properly and thoroughly washed.
- Do not join raw ingredients/foods with ready-made and cooked foods.
- When eating meat, fish and eggs, cook them thoroughly. Avoid eating raw eggs, sauces and desserts that may have been prepared with raw eggs.
- Boil any foods that may be reheated later.
- Do not leave any cooked foods out at room temperature any longer than 2 hours. Keep them in the fridge or store in a cold place instead.
- Maintain regular eating hours (i.e. do not skip meals and have something to eat every 3 hours/ at regular intervals).



**Tips from Groundstigators: An ancient Ayurvedic Recipe** – Many Indian families believe that drinking hot water first thing in the morning helps to clean the bowels. Also, boiling water with carom (ajwain) seeds and drinking it after each meal helps to avoid gas-ses and gastric problems.

▲ Also, to **prevent nausea**:

- Eat slowly and in small doses, various times a day
- Avoid eating fried foods and foods fried with fat, and sweets
- Avoid lying down straight after a meal
- Do not mix cold and hot food at the same time
- Drink any liquids in between meals very slowly
- Eat food with ginger and drink water that has been boiled with ginger in it
- Avoid intense smells as well as smelling fried food
- Avoid foods that make you nauseous and find a substitute

▲ Preventing Obstipation and haemorrhoids (piles):

- Eat foods rich in fibre regularly, such as pulses (lentils, beans, etc.) and fresh fruit (for example oranges, kiwis, plums, etc.), seeds (for example ground linseed), brown cereals; drink water and practice regular physical exercise.



A photograph of a woman holding a baby, overlaid with a semi-transparent blue filter. The woman is wearing a white ribbed sweater and is looking down at the baby. The baby is lying in her arms, looking towards the camera. The background is a solid light blue color.

## **2. Breastfeeding and/or formula feeding**

## ► 2.1 Breast milk

According to the WHO – World Health Organisation, Breast Milk is considered the most effective to fulfil the nutritional needs of a baby. Breastfeeding is recommended as exclusive feeding for the first 6 months of a baby's life (WHO, 2001; ESPGHAN, 2017; AAP, 2012, Aggett, 2010).

As per 6 months of age, exclusive breastfeeding is not enough for the energetic needs of a baby, who needs some micronutrients – such as iron, zinc, complex B vitamins, etc. – through other new foods (<https://alimentacaosaudavel.dgs.pt/alimentacao-saudavel-dos-0-aos-6-anos/>).

Breastfeeding in addition to other complementary foods should be maintained, if possible, up to age 2. Moreover, even partial or shorter periods of breastfeeding, is more beneficial in comparison to feeding exclusively through formula milk (powder milk).

### **Breastfeeding has multiple advantages for the mother and for the baby**

▲ It is known that breastfeeding promotes multiple advantages to mothers:

- It eases the reduction of the size of the uterus.
- It prolongs the absence of menstruation, reducing the risk of post-partum anaemia.
- Is associated to reduced risk of breast, uterus, and ovary cancer.
- It is cheap and eco-friendly (it doesn't create environmental waste).

▲ **Breast milk** carries various advantages for the baby:

- **It is the safest and most complete nutrition for babies** and is always ready at ideal temperature.
- It is easy to digest for babies.
- It protects babies from most illnesses, i.e. infections, dehydration, malnutrition.





## ► 2.2 How to breastfeed

### When to start breastfeeding?

Colostrum is the first breast milk and the most important food for all new-born babies. It's a yellow and thick form of breastmilk that is accumulated in the mammary glands in the last months of pregnancy. Although it is only available in small quantities during the first 2 to 4 days after delivery, it is a powerful, caloric, and nutritious food that protects and satisfies the baby. After these first days, breasts get firmer and fuller and, instead of colostrum, will produce transitional milk, which is whiter and creamier.

### How to breastfeed?

Before **positioning the baby for breastfeeding**, the mother should wash her hands properly and choose a comfortable position. To start, her nipple should touch the baby's upper lip so the baby can open their mouth, and then both the nipple and areolar area (brown area of breast, around the nipple) should be introduced into the baby's wide-open mouth. When the baby seems to have adapted well to the breast, their nose and chin lean to the breast and their lower lip is sticking outwards, while we hear the sound of them swallowing. During the whole process, the breast should be free for milk to come out easily. The baby should feed from just one breast, and you should only offer the other breast if the baby is showing signs of any dissatisfaction (in the following feed, you should alternate breasts). At the end of the feed, the breast should be retracted delicately and slowly, by placing your little finger in the corner of the baby's mouth, for them to open their mouth.



Whilst **the duration of a breastfeed** is not important, 90% of babies need around 4 minutes to feed. Some babies prolong their feed to up to 30 minutes; the mother should assess if the baby is sucking milk or if they are just using the breast as a dummy/pacifier, which is easily understood by verifying if the baby has their cheeks full of milk and if there are swallowing milk or not.

The **time** is also not important, as the baby should feed when they are hungry (that is, in a free regime, as each baby is unique, timing should be adjusted to each baby's needs). Furthermore, a baby should not be left to sleep more than 3 continuous hours during their first month of life. After their first month, they can be woken up after 3 to 4 hours of sleep. On the other hand, it is important that the mother avoids stress and that they maintain themselves calm during the breastfeeding period, as stress directly affects lactation. Also, mothers should not try to lose weight during the breastfeeding period.

## ► 2.3 Breastmilk extraction

You can go back to work and keep on breastfeeding. To do that, you need to readjust time of feeds and extract milk to store, for which a specific milk pump can be used to extract milk to then keep in the fridge or freezer (please refer to specific instructions in the next section). Whilst exclusive breastfeeding is recommended during the baby's first 6 months of life, a mother should not feel anguished should she need to opt for mixed

feeding using formula milk too (for babies over 4 months). Even if just for a shorter period, breastfeeding is proven to be beneficial for the baby's health. Studies show that babies who breastfeed have a reduced risk of otitis media, acute gastroenteritis, severe respiratory infections, atopic dermatitis, asthma, obesity, type 1 and 2 diabetes, leukaemia, sudden infant death syndrome, necrotising enterocolitis.

## ► 2.4 How to store breastmilk

In view of **storing breastmilk correctly**, should you have the possibility of doing so, the following recommendations should be carried out.

### ▲ Before storage

- a. Before extracting milk, the mother needs to wash her hands thoroughly.
- b. **The first squirts of milk need to go to waste**, as they content the highest quantity of bacteria.
- c. The milk pump used for extraction needs to be manual or electric, depending on what is most comfortable for the mother. Manual extractors are cheaper than electric ones, they are quiet and practical for extraction once in a while. They may also be harder work than electric milk pumps, if used frequently, in which case electric ones are faster and more practical, due to pumping for you.
- d. **Extract breastmilk into a nursing/ milk bottle** which must be apt for the pump.



### ▲ Storage of breastmilk depends on what room temperature is at time of extraction

- a. After extraction, breastmilk should go into the feeding bottle (plastic or glass), **sealed and labelled (with the date, time and quantity)** and immediately stored in the coldest side of the fridge (never on the door shelves), and needs to be **consumed within the following 48 hours** to avoid the growth of microorganisms that may cause infections. **Should you want to freeze breastmilk**, you need to leave enough space in the container to allow for volume increase which always happens during the freezing process. Thus, it should be stored in a bottle or in freezing bag to  $\frac{3}{4}$  of its capacity (only 75% full), specifying its date and time of extraction. It can be kept up to a maximum of 6 months, at a temperature of -20°Celsius. Should you not be able to guarantee storage at -20°C temperature, it must be defrosted and used within 2-3 weeks.
- b. For both methods of storage, you should always use the least recent breastmilk first.
- c. When **defrosting** breastmilk, it should be stored in the fridge the night before using, and never at room temperature, ensuring a slow defrost. If kept at room temperature, breastmilk should be used within 1 hour of defrosting.
- d. Once defrosted, breastmilk **should be used within 24 hours**.

- e. To **warm up breastmilk**, the milk bottle or freezing bag must be placed in another bowl with hot water – never boiling water – or under running hot water. That is because if milk is in **contact with boiling water, its properties change**.

For further information, please consult “Expressing and storing breast milk” - NHS ([www.nhs.uk](http://www.nhs.uk)). To clarify any doubts, please ask the nurse at your Unidade de Saúde or contact SOS Amamentação (+351 21 396 5650) or Mama Mater (+351 91 9422 852), or read “Amamentação” leaflet issued by DGS - Direção Geral da Saúde.

#### ▲ **Never:**

- Never Warm up breastmilk in the microwave because it does not warm up all the liquid in its container at the same temperature, which implies a risk of burning the baby in feeding; it also changes the breastmilk’s nutritional properties.
- Never use a microwave oven to defrost breastmilk. This is due to microwaves not heating up all milk in a container at the same temperature, which in turn implies both that the baby may get burnt and that milk nutrients may alter substantially.
- Breastmilk should never be frozen a 2nd time.

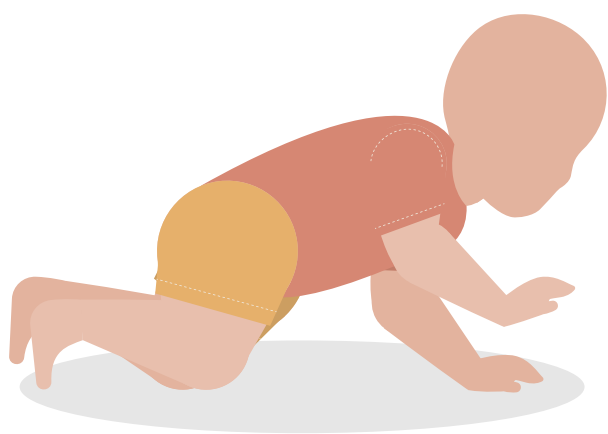


## ► 2.5 Formula feeding

In the case of the mother not being able to or chooses not to breastfeed, artificial milk (that is, baby powder formula milk) should be used instead, for bottle feeding. In this case, babies will be fed exclusively with formula milk up to their 4th month of life.

Powder milk should be chosen in accordance with the baby's age: Formula 1 up to 6 months of age, formula 2 between 6 and 12 months of age, and from 12 months of age onwards it should be formula 3 or cow milk.

The baby should be placed in a comfortable and slightly upright position. The teat used for the bottle should resemble the mother's nipple and should be in rubber or silicone and heat resistant, flexible and soft. It should allow liquid to pass through drop-by-drop, and therefore the opening cannot be very big, or else the baby would be at risk of choking.



## What to bear in mind about the feeding bottle

### How to prepare the feeding bottle

- a. Clean and disinfect the surface where you will be preparing the milk bottle. This may be done by using water and washing-up liquid.
- b. Warm water should be first placed in the feeding bottle, then formula milk is added. Dry bottle heaters are preferable, but if not possible the bottle can be warmed up in a bigger container filled with hot water (40-42°C) – and never boiling - for 15 minutes.
- c. **Check the expiry date on the formula milk package and make sure it has been open for less than 1 month.**
- d. Following, add the quantity of powder milk specified for the baby's age into the water (quantity according to water). Usually, it would be one full scoop of formula milk, levelled with a knife or spatula to get rid of excess amount of milk powder, for each 30 ml of water.
- e. When ready, place the teat properly and shake the milk bottle for the powder to dissolve in the water.

### Before feeding

- f. The bottle must cool down. In order to verify if the bottle temperature is adequate, test a few drops of it on the inner part of your wrist to check the temperature is comfortable. Should it feel too hot, place the feeding bottle under running water or in a cold-water container.

### While feeding

- g. For the baby to drink their milk, the milk bottle should be inclined downwards, and the teat should be full of milk to make sure the baby is not swallowing air and to reduce chances of cramps and infant colic. You must also ensure the milk is passing through drop-by-drop and not all at once in a flow.

### After feeding

- h. Any leftover milk and remaining milk that is not consumed within 2 hours, must be thrown out, and cannot be rewarmed up.
- i. A used bottle cannot go back into the baby's mouth without being washed and dried properly or else it enables growth of microorganisms that may cause infections!
- j. After the feed, provided hands have been washed properly and thoroughly, and in normal hygiene conditions (that is, a clean environment, washed clothes, personal hygiene of the adult in contact with the baby as well as the baby's own hygiene, access to running water and soap), it is not necessary to boil the bottle and teats. However, you must wash the milk bottles and teats with hot water, detergent and washing up brush, so as to get rid of any residues. Once finished, rinse in abundant clean running water.
- k. Bottles and teats can also be washed in the dishwasher.
- l. Once they are thoroughly dry, the bottles should be kept in a dry and clean place until their next use. The teat must be placed upside-down in the bottle, and the bottle should remain sealed with its own cap.





# 3. Diversifying food during early years

Exclusively breastfeeding is recommended for at least the first 4-6 months of the baby's life. Complementary foods (ie, solid foods and liquids other than breast milk or infant formula) should not be introduced before 4 months, whereby breastfeeding should be the sole nutrition during these first few months; but should not be delayed beyond 6 months.

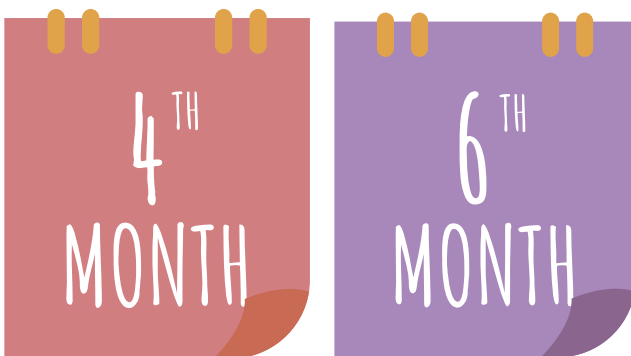
Diversifying food is not recommended prior to the baby turning 4 months old as studies outline the increased risks of allergies when solid foods are introduced before this age (ESPGHAN); at the same time, solids introduction should not occur later than the baby turning 6 months old, as after this age it is harder to fulfil the baby's nutritional needs for proteins, iron, zinc and vitamins such as A and D vitamin, solely through breastmilk (Brown KW. WHO/ UNICEF Review on Complementary Feeding and suggestions for future research: WHO / UNICEF Guidelines on Complementary feeding. Pediatrics 2000;106 Suppl 5:1290-1).

At around 4 months of age, kidney and gastrointestinal functions are sufficiently mature to allow the baby to process foods introduced via food diversification; similarly, between 4 and 6 months of age is when motor functions are sufficiently developed in order for the body to adequately deal with new foods. It is therefore crucial that texture and consistency of foods is selected in line with the baby's nutritive and developmental stage. Breastfeeding should also be continued during this adaptation stage of diversifying foods.

Moreover, if possible, it should be the only food given to a baby until their 6th month of life. The baby's introduction to other foods should be:

- At 4 months of age, in case they are taking mixed milk (that is some breast milk and some formula milk) or in the case of having fed only on artificial milk
- At 6 months of age, in the case of only having fed breastmilk.

When exclusively breastfeeding, it is not necessary for the baby to drink water, however, when starting on complementary foods, the baby should start drinking water at various times of the day. That is because breastmilk contains water, whilst powder milk and formula milk require the baby to drink additional water. It is not recommended to offer the baby tea or herbal infusions as they contain substances that can cause cancer in children up to 4 years of age (\*1), nor juices – which contain a high percentage of sugar.





# Weaning ceremonies: a lens into diverse ways

It is fundamental to acknowledge the diverse cultural heritages around introducing solids according to cultural rituals that already exists in the Lisbon area too. For example, Annaprshan – the rice ritual – connects many but not only Nepalese, Indian and also Hindu families that live in Portugal to their religious beliefs. Similarly, in Nepalese tradition, kheer is offered to the (5 months old if a girl, 6 months old if a boy) baby publicly for the first time, as a Temple religious leader or an elderly person in the community conducts a blessing.

The belief linked to Annaprshan, as well as other rituals and practices, is of bestowing meaning to life so as to teach humans to lead

a positive and healthy life - physically, mentally, socially, and spiritually. Nowadays, it is also an occasion for the celebration of love.

Regarding the introduction of solid foods, among families from Chinese background – particularly with roots in the Southern regions, the baby's first meal is made with rice flour and would include chicken or pork and never beef.

In the case of weaning ceremonies amongst Bengali families around the globe – generally around the 5th or 6th month of a baby's life, a rice porridge is cooked in abundant sugar and fed to the baby as their first solid to be eaten during the community celebration.



## Looking into Diverse Rituals:

### Annaprashan Ritual or Pasni, the weaning ceremony

The annaprashan ceremony, performed over one day only, is one of the most popular Hindu custom to initiate the baby to solid foods within Nepalese, Indian and other families who practice Hinduism – both in South-East Asia, Portugal, and across the world. **Kheer** (sweet rice porridge) is used for the ritual, after which the family can slowly start to introduce weaning with other foods (solids) into their baby’s diet. Amongst some Bengali families, “Mukhey Bhate” (literally meaning ‘Rice in the baby’s mouth’) is a similar celebration, whereby elderly members of the family and/or close relatives join to feed the baby kheer.

This ceremony is held at the age of **five months for daughters**, and **six months for sons**. An auspicious date and time are chosen by an astrologist, usually a Hindu, and all the closest relatives are invited to witness and to celebrate. **Rice** is the first (and easily digestible) solid food a baby eats, in the form of *kheer*, whereby rice is almost reduced to purée with milk to achieve a similar consistency to milk. Once the ceremony site is cleaned and the ritual platter is prepared, the priest and/or clan eldest will begin the *puja* (worship ceremony). First, a *tika* (Hindu mark) is drawn across the baby’s forehead.

This ceremony has become extensively lavish over recent years, with large parties of not just close relatives, but also colleagues and friends being invited for the event, whether in Nepal or abroad within Nepalese

communities including in Lisbon. The hundreds of guests partake in a wedding-style banquet under tents, which are often catered by commercial catering services. They also bring gifts for the child - a new custom that has become more popular with the commercial rise of clothes, toys and other gift items targeted towards children.

**Simpler ceremonies are also performed in temples dedicated to female tantric deities, with only a few relatives in attendance. The ceremony varies from family to family as they incorporate their own long-standing family traditions.**

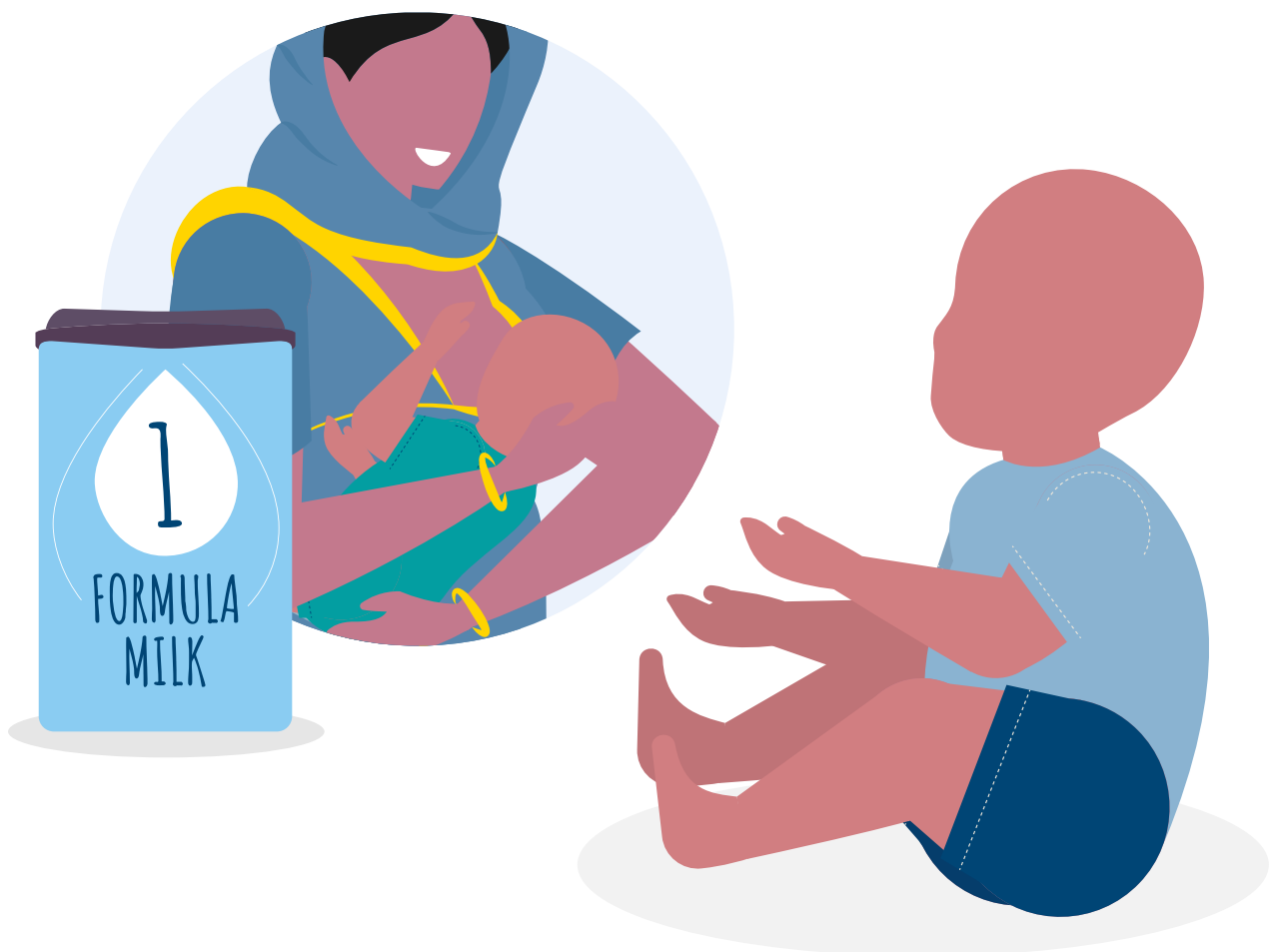
Annaprshan is a cultural practice that roots a belief to bestows meaning to life so as to teach humans to lead a positive and healthy life both physically, mentally, socially, and spiritually. Nowadays, it is also an occasion for the celebration of love, happiness, and blessing among individuals, families and communities in Hindu society regardless of their geographical location.



Irrespective of new foods being introduced at 4 or 6 months of age, they should anyhow be introduced gradually, every 3 days, so any possible allergies can be easily identified. Within the first 12 months of life, the baby should have tried the widest range of ingredients possible, depending on the type of diet (vegetarian, fruit, meat, fish, egg). It is crucial that the texture of such foods is adequate to the baby's development stage and age, firstly in form of purees and later – sensibly starting from the 7<sup>th</sup> month - in small pieces to then go for more solid pieces/small chunks so as to promote learning to chew. Any hard solids (for ex. Walnuts or peanuts) should not be given to a baby prior to 3 years of age but can be finely chopped or mashed (for ex. Peanut butter) to avoid choking.

**At 6 months of age**, if the baby has been feeding formula 1, they should transit to formula 2 powder milk. At this stage, the baby should be eating 5 to 6 times per day. Some babies gradually start eating solids at 6 months of age.

**When a baby reaches the age for solid foods, once per day one of the following can substitute breastfeeding:** fruit, soup (liquid) or finely mashed vegetables, meat or fish\*, porridge (cooked with boiling water or with the milk the baby has been feeding). They won't start consuming all of the following but rather a selection of vegetable puree and meat or fish, and fruit, and the remaining meals should still be milk – whether formula or breastfeeding. During this stage, soup or mashed vegetables are important to train the baby's palate to tastes that are not as sweet as milk.



## ▲ Vegetables and Pulses

The first soup or mashed vegetables purée may be made of potatoes, carrots, or pumpkin (it is not advisable to use both of these in the same soup). After cooking, all ingredients should be mashed into a purée. After cooking, you may add half a teaspoon of raw olive oil (that should not be cooked/heated); you should not add salt or other spices.

**Soup or totally mashed vegetables** are an easy way to prepare appropriate food, but it is not the only way. The first ingredients beyond milk can be cooked (boiled, steamed, oven baked, etc.) jointly or separately, as long as they don't contain salt or excess fat (olive oil is the healthiest fat recommended) and they are adequately textured. **That is, make sure the baby can “mash” the solid foods with their fingers; and also make sure they want to try it... don't force them to new foods!** Babies will eat with their hands the quantity they want.

Once every 3 days, new vegetables (lettuce, green beans, courgettes, leek, broccoli, onion, etc.), pulses (beans, soja, lentils and daal, chickpeas) and cereals (rice, pasta, noodles, flour) can be gradually introduced one by one. Pulses are a healthy ingredient, and they are important for a baby's nutrition, but must be given to the baby in smaller quantities than vegetables or cereals as they are more difficult to digest.

Vegetables must be washed in clean running water. Similarly, to soup or mashed veg, cooked vegetables can be frozen in individual portions once they have cooled down.



## ▲ Fruit

Fruit can be given to the baby raw, grated or chopped. Initially, it should be 1 piece of fruit per day, starting with a banana, apple, or pear (cooked or baked unpeeled). Gradually, other fruits can be introduced (mango, papaya, avocado, melon, yellow peaches), always choosing one fruit/type of fruit at a time. Juice or mixed fruit puree should be avoided.

Fruit does not substitute a meal – rather, it can be a dessert to follow the baby's main meal or at the beginning of their meal. It is not required to ensure they are eating fruit at a specific time of the day but you should ensure they eat 1 fruit per day.



## ▲ Meat or Fish (if you follow a non-vegetarian diet)

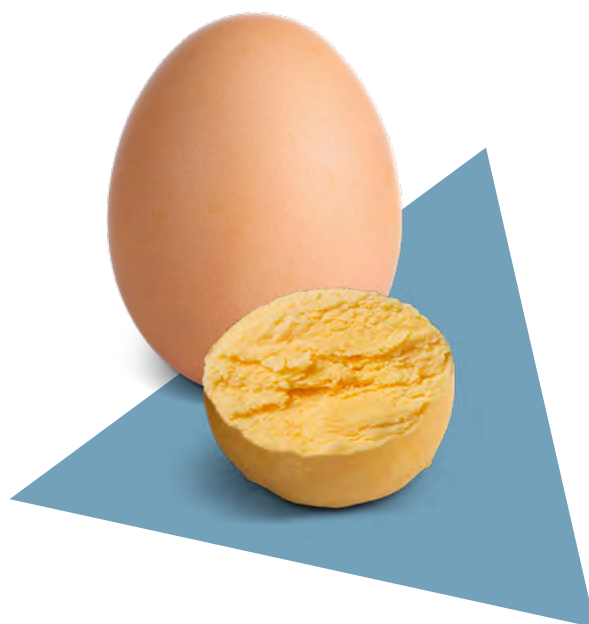
Initially, meat or fish can be introduced into the baby's nutrition as a soup or within the vegetable puree. Meat should be cooked with no skin nor fat and must be minced. No more than a spoonful of meat should be added to the baby's soup or vegetable puree, without adding any salt. Fish should be prepared in exactly the same way as meat, paying extra attention to avoid any bones. Fish or meat should only be part of 1 daily meal, and should initially be 10gr/0,22 pounds to progressively increase to 30gr/0,066pounds per day. Meat should be eaten about 4 times per week and fish 3 times a week. This means you can choose how to distribute the protein, for example having meat and fish in two different meals on the same day and then no meat or fish another day of the same week.



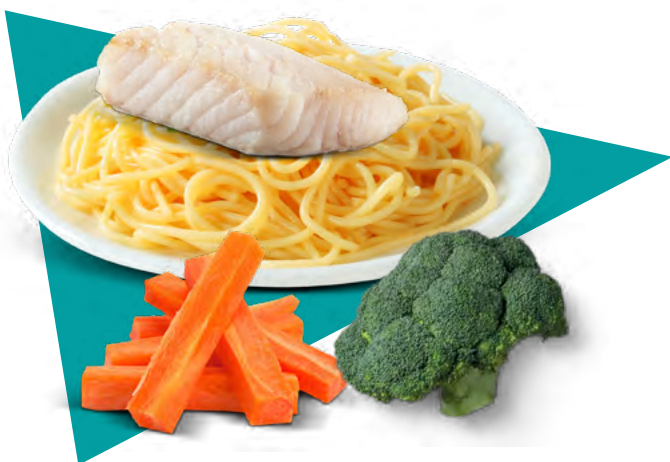


## ▲ Eggs

**Eggs** should be introduced progressively, starting with half a boiled yolk during the first week, then moving onto a whole boiled yolk in the second week, and finally a full egg in the third week. Eggs shouldn't be eaten by a baby any more than 2 to 3 times per week, cooked in different ways provided it does not involve fat nor salt, and always substituting meat or fish. A recent study from ESPHGAN concludes that when well cooked eggs are introduced early, at 4-6 months of age it causes a decrease in risks of allergy to it.



**At the age of 9 months**, consistency of soups and cooked food should increase, as well as progressively introducing more solid foods. **By 12 months of age**, infants should drink mainly from a cup or training cup rather than a bottle.



Meat or fish can now be complemented by a portion of pasta or boiled white rice, always with vegetables on the side which should be mashed with a fork and without any salt. As an alternative to morning or afternoon snack time with milk or porridge, they can now try a natural yoghurt (with no aroma and no cream) with fresh fruit and/or a crushed biscuit – it may be a dry and simple rusk with no fillings. The yoghurt must not contain sugar nor honey as this increases risk of botulism, an infection that causes muscles changes and that may lead to death. In vegetarian or vegan diets, the remaining foods should be reinforced – that is vegetables, cereal, dry fruits and pulses, while also making sure you are varying the ingredients; at the same time, it is also strongly recommended that you seek the advice of a health professional.

## From 12 months of age onwards

Should no difficulties arise with the infant's nutrition during the previous phases of adaptation to different foods, they are now ready to start with the same nutritional regime as their (adult) family. During the 1<sup>st</sup> year of life **(1 to 2 years old), they should avoid:** condiments, fried foods, sweets, salt, sugar and honey (associated with infant botulism which is a serious illness caused by a toxin that attacks the body's nerves). During this stage of life, **the child should eat 5 meals a day, getting used to their family's main meal times.**

From when they are 12 months old, they can start taking cow milk. They should not consume more than 500-700ml of milk per day.

To reduce exposure to inorganic arsenic, (a substance that promotes the formation of cancer) **rice drinks should not be drunk by infants and young children.**



## Vegetarian diet

If a parent follows a vegetarian diet and/ or chooses to wean an infant onto a vegan diet, this should be done under regular medical and expert dietetic supervision, and mothers or primary carers should pursue and follow nutritional advice. Tofu, bean products, and soy products can be used as protein sources to replace meat or fish\*, depending on the baby's age. Infants who are not receiving breast milk should receive a soy-based infant formula.

## **Baby-Led Weaning: from the age of 4-6 months, once you start diversifying foods**

In the “baby-led weaning” method, infants feed themselves hand-held foods instead of being spoon-fed by an adult, sharing family foods and mealtimes. This approach may provide the infant with greater control over their intake and encourage more responsive parenting. It has been suggested that this may result in better eating patterns and reduce the risk of overweight and obesity.

Both raw and cooked foods must be presented in small pieces that the infant can easily grab with their hands and control as their

eating – ideally stick shaped or no bigger than their fingers, i.e. “finger-food”. This way, the infant decides what and how much they eat, and the pace of their meal, in the same way as they do in an exclusive breastfeeding process.

It is essential that the adult carer / parents constantly supervise the infant’s meal, especially if their physical capacities are less developed, in order to make sure that they are not choking.







# 4. Preventing obesity in early years and childhood

According to the World Health Organisation – WHO (World Health Organization), overweight and obesity are defined as abnormal or excessive fat accumulation that may impair health, increasing risk of other illnesses and health conditions, such as diabetes, cardiovascular diseases (mainly heart disease and stroke), asthma and cancer. Nowadays, obesity is considered the most common illness amongst children around the world, whereby over 60% of children are estimated to become obese adults, which is highly concerning.

Preventing child obesity should start before and during pregnancy, by preventing maternal obesity and maternal diabetes, and to promote that the baby can be born with an appropriate weight; that is because underweight and overweight babies are at higher risk of developing obesity during their childhood, teen ages and adulthood. After birth, if possible, for the mother, it would be best to solely breastfeed **for the first 6 months of life**, which ensures nutrition, safety and protection. A balanced transition to solid foods determines the baby's future, as **lifelong eating habits are established during the first 2 years of life**.

No sugar nor salt should be introduced **during the first year of the baby's life**, and this includes any foods that contain added sugar, such as drinks with sugar, cakes, sweets and biscuits. Any foods contain fat, sugar and salt should be **avoided for the first 2 years of the baby's life**, even if it is “just to try”. **After the first 2 years of life**, this type of foods should be regulated to just once per week, or ideally once per month as they do not aid in any way the child's development. Fruit, vegetables, lean meats or fish, whole grains and nuts should instead be the main foods consumed early on when starting solids. **After age 2**, the baby will grow more selective, and their sense of taste will be “educated” by the family environment and kindergarten. Nevertheless, it is still necessary to regulate the quality and quantity of food – that is offering healthy foods and regulating quantity and portions.

An infant is not capable of preventing or curing themselves from obesity. Also, it is difficult to change behaviours and it is only natural that the baby tends to want to eat sweets, fatty and salty foods as they may appear to produce an immediate sense of pleasure; therefore, it is up to adult carers to avoid this, as they are responsible for the child's nutrition and to keep them healthy.

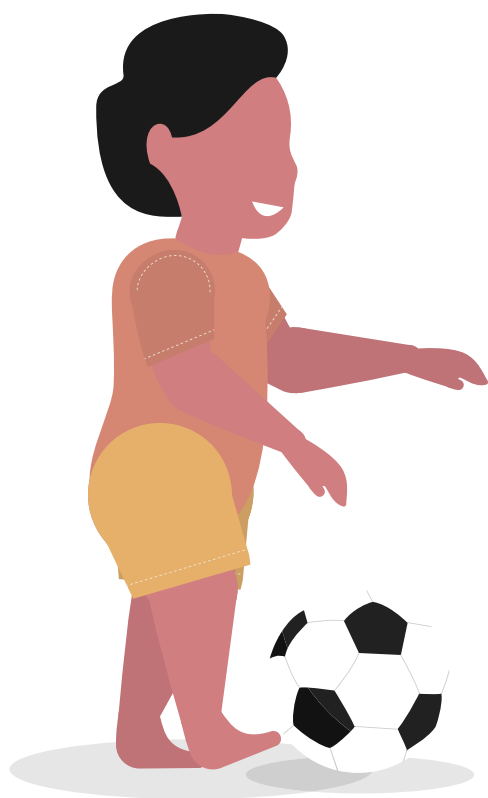


## Practical tips:

- Not buying foods that “are not allowed” may help to discourage the child from being tempted to eat those foods. It would therefore be recommended to buy only healthy foods (vegetables, fruit, etc.) instead.
- Adults should be enacting the best possible example. They are the baby’s models, and so are their eating habits. It is therefore crucial that adults are showing in their habits that these recommendations are useful by eating healthy – which contributes not only for the baby’s health but also for the whole family’s well-being and health maintenance.
- In addition to adopting a balanced and healthy diet, obesity can also be prevented and treated through regular exercise and sports, which may be 60 minutes per day for children. Physical exercise is fun, contributes to weight regulation, increases self-esteem, and fosters better school/academic achievement.
- Sleeping patterns are also essential for healthy weight maintenance, as children who do not follow regular sleeping hours and routines are more bound to gain weight.

Everyone should pursue a varied diet, adjusted to recommendations of a balance between foods, nutrition ratios and portions, avoiding foods that are not part of the food wheel/pyramid such as those containing added fat and sugar.

To sum up, obesity in the early years can be prevented and treated through healthy habits and healthy eating, sleeping and physical exercise routines, which should be maintained by both the child and their family.



▲ A healthy nutrition style should be complete, balanced, varied and rationed:

- Food intake should be distributed throughout the day, with 1-2 main hearty meals and 3-4 light food intake in between, every 3 hours.
- Eat slowly and chew properly and thoroughly all foods.
- Eat in a calm place and without rushing.
- Drink water in between meals – between 1,5 and 3 litres per day.
- Fish, meat, and eggs are significant protein sources.
- Milk, cheese, and yoghurt (dairy products) are essential for vitamin, calcium and protein intake.
- Avoid sugar in your food (milk, yoghurt, fruit) and reduce intake of sugary drinks.
- Avoid fatty foods and control any additional fat (such as spreads, sauces, butter) in whichever form.
- Avoid ready-made food and fast foods, as they are very caloric (high percentages of saturated fats and sugar) and contain very little essential nutrients.
- Where there is a choice, select “Mediterranean” types which normally feature lower fat and tend to be cooked in more healthy ways (e.g., steamed, oven baked, stir fried, and use herbs and spices to substitute salt).

▲ Fibre should be part of daily nutrition:

- Eat pulses (peas, beans, chickpeas, lentils) regularly, either as a side or in a soup/stew/curry;
- Vegetables (raw or cooked) should be eaten daily and at least in 2 meals each day, taking up half of your dish;
- Fresh seasonal fruit is better than frozen or greenhouse-grown fruit. You should preferentially try and vary between different fruits;
- Brown cereal and flours (pasta, rice, breads) are better than white ones as they are richer in fibres and contain less sugar.

▲ Common eating mistakes:

- Eating too much
- Skipping meals
- Consuming excessive salt
- Consuming excessive sugars (cakes, sweets, chocolate, etc.)
- Excess fat (that is processed and fried foods)
- Excessive Alcohol
- Low intake of pulses and vegetables
- Low intake of milk and its derivatives.







# 5. Childhood oral health

Teeth are very important and must be protected and taken care of. Their main purpose is to chew all foods, but they are also needed to talk and to smile.

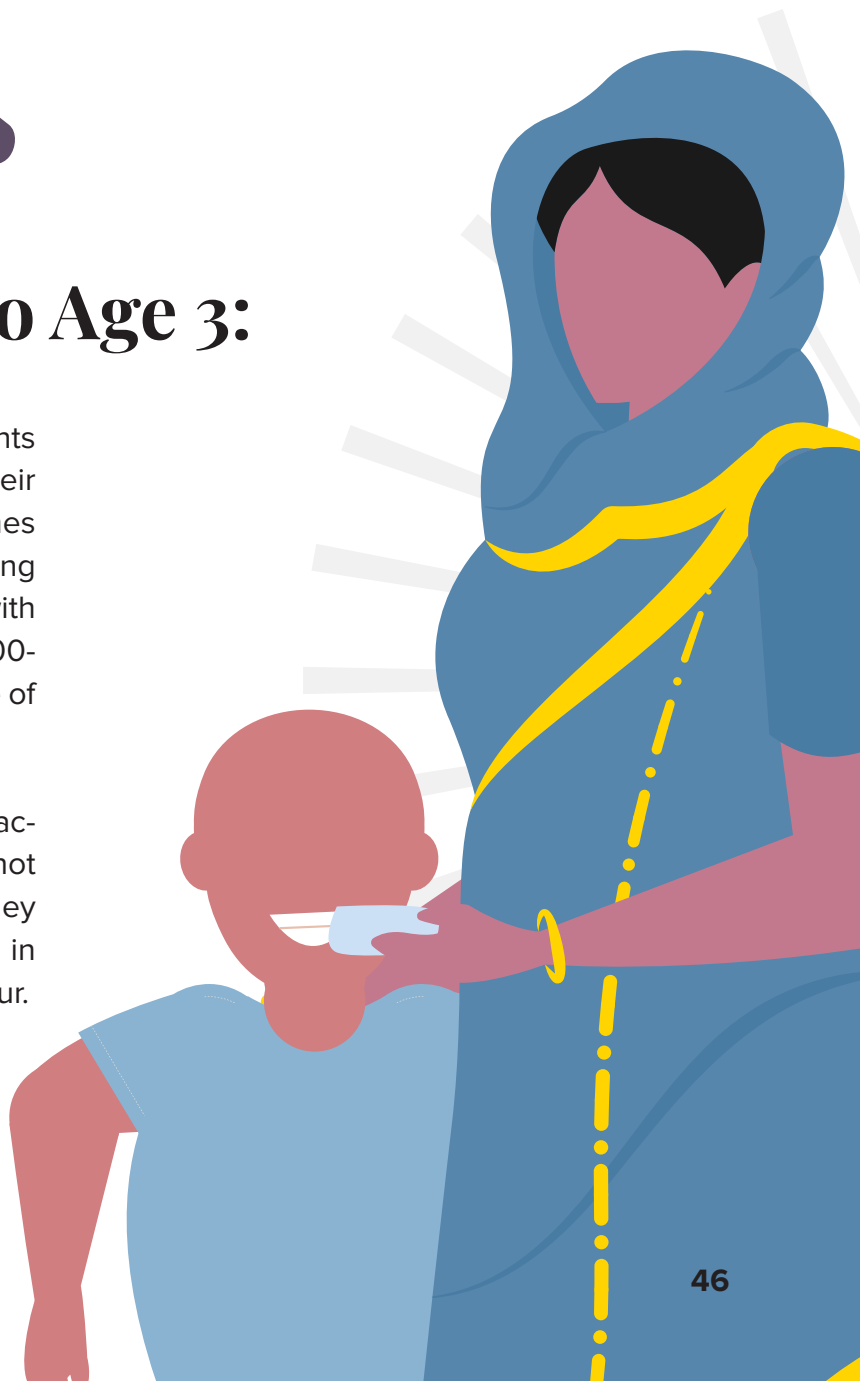


Generally, the average child has their full set of 20 primary teeth by the age of 3 years, as they start teething from around 6 months of age till, they are 3 years old, with 8 incisors (front teeth and lateral), 4 canines (besides the front molars) and 8 molars. By the time we are roughly 18 years old, the average person has 32 permanent teeth – that is 8 incisors, 4 canines, 8 premolars and 12 molars, for a total of 16 on the upper jaw and 16 in the lower jaw.

## ► 5.1 From Birth to Age 3:

After the first tooth comes through, parents or adults carers should start brushing their baby's teeth twice a day (one of the times must be after the last meal of the day), using a gauze swabs or a soft baby toothbrush with a tiny smear of fluoride toothpaste with 1000-1500 ppm (mg/l) of fluoride – that is the size of the baby's own little finger fingernail.

You must not use sugar or honey in their pacifier / dummy. After age 1, the baby should not use their milk bottle for long periods, and they should not fall asleep with the bottle teat in their mouth – whether it is milk, juice or flour.



## ► 5.2 From ages 3 to 6:

This is the time when the parents' and/or adult carers' example and modelling is most important, as children start imitating and mirroring attitudes, gestures, and habits. Hence, the importance of start gaining oral hygiene habits. Supervise the child brushing teeth, to make sure they get the right amount of toothpaste, and they are not eating it, and that they are brushing teeth more thoroughly in small circles, covering all the surfaces of the teeth. However, don't worry if you don't manage to brush much at first by themselves - the important thing is to get your baby used to brushing their teeth as part of their daily routine. You can help by setting a good example and letting them see you brushing your own teeth properly.

Brushing should still occur with a fluoride toothpaste containing 1000-1500 ppm (mg/l) of fluoride and the amount of toothpaste should be the size of the child's own little finger fingernail. They must brush teeth at least twice a day, one of which should be just before bedtime.

At this age, any eating gums, sweeties and soft drinks or sugary drinks is highly discouraged. Lollipops and sweet drinks are particularly damaging because they bathe teeth in sugar.





## ► 5.3 From Age 6 onwards:

At this age, the child should be brushing their own teeth, using a fluoride toothpaste containing 1000-1500 ppm (mg/l) of fluoride or the same as adults in the household are using, in a quantity equal to 1 cm in length, for around 2 minutes, in small circles. Teeth need to be brushed twice a day, one of the times being before going to bed. If the child has any manual mobility issues, brushing teeth should be supervised, supported, or done by parents/ carers.

The toothbrush should be personal to them (not shared) and must always be clean. It should be soft and appropriate for the child's age. It should be replaced with a new one every 3 months or when the bristles begin to splay or fall outwards. After using, the toothbrush should be kept with its bristles facing upwards so they can dry.

In addition to brushing teeth, around 9-10 years of age, dental tape can be more effective than dental floss to clean in between teeth and avoid gum trauma when performing interdental hygiene, once the child has enough manual dexterity for it.





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