

Seafood for you!

Health benefits and new seafood products for older adults



INTRODUCTION

Seafood is an important source of nutritious food in Europe. Seafood plays a vital role in a balanced diet as it is a good source of high-quality proteins, vitamins (especially vitamin B12 and vitamin D), minerals (particularly iodine, iron and selenium) and contains a unique type of fat and omega-3 fatty acids, which have many health benefits. Most governments and health organisations recommend eating two portions of seafood per week. However, like any other food type, seafood can also be a source of harmful contaminants with the potential to impact human health negatively. Nevertheless, for most people, the overall benefits of seafood consumption (following the official recommendations) outweigh potential food safety risks.

As the global demand for food increases, now more than ever, there is a need for high-quality food that is socially, economically and environmentally sustainable. **SEAFOOD^{TOMORROW}**, an EU-funded project, has generated new knowledge and innovative solutions to help meet this demand and to improve the dietary value and safety of seafood. The project's results benefit both the seafood industry and consumers.

There is growing evidence that specific subsets of the population, namely pregnant women, children and older adults, benefit from eating seafood as it meets their specific dietary requirements and needs.

This factsheet outlines the health benefits that seafood offers for older adults, aspects to look out for and what consumers can do to minimise any potential risks from their seafood consumption. We also highlight relevant research findings from the **SEAFOOD^{TOMORROW}** project, including tasty recipes that meet the dietary needs of older adults.

SEAFOOD FOR OLDER ADULTS

Eating a balanced energy and nutrient-rich diet can help reduce age-associated health conditions, such as heart disease, high blood pressure, and cognitive decline. The nutritional needs of aging adults are mainly defined by a lower capacity to absorb nutrients, especially **proteins**, an increased need for **healthy fats (omega-3s)**, as well as **vitamins (vitamin B12 and D)** and **minerals (selenium and iron)**. Seafood provides important sources of each of the following nutrients.

- **Protein:** leucine, an essential amino acid and protein component, is particularly important for older people as the muscle mass in the body decreases and the risk of injury increases. The ability of the body to absorb protein also decreases with age, making it even more important for aging adults to increase their intake of high-quality proteins rich in leucine.
- **Omega-3 fatty acids ("healthy fats"):** are known to reduce the risk of heart disease, stroke and high blood pressure, as well as Alzheimer's disease and cognitive decline. There is also evidence that omega-3s can reduce the risk of certain cancers (colon, breast and prostate) and type II diabetes. Docosahexaenoic acid (DHA) and Eicosapentaenoic acid (EPA) may also reduce the risk of chronic eye conditions, protect bones, maintain joint health and reduce inflammation caused by rheumatoid arthritis.
- **Vitamin B12:** and other B vitamins, can help reduce loss of cognitive function and lower the risk of Alzheimer's disease, cardiovascular disease, and cancers.
- **Vitamin D:** as a major regulator of bone formation and calcium absorption, vitamin D is important for aging adults as the risk of fragility fractures and osteoporosis increases. The body can produce vitamin D through UV radiation on the skin. However, the ability of the skin to synthesise vitamin D greatly reduces with age, and the diet is therefore the only source of this important vitamin.
- **Selenium:** helps protect the brain from damage and can help detoxify the body. There is evidence that low selenium intake may be associated with inflammation and increased mortality, particular in older women.
- **Iodine:** supports thyroid regulation and can reduce hypothyroidism, the risk of which increases with age.

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RECOMMENDATIONS FOR OLDER ADULTS

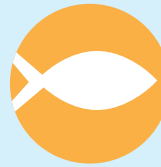
- Ageing adults should choose seafood products that are rich in omega-3 fatty acids, particular oily fish (e.g. tinned fish, mackerel, sardines, salmon from sustainable sources)
- Seafood contains more vitamin B12 and vitamin D than any other food type! Eating seafood can help aging adults meet their recommended daily intake of both of these vitamins.
- Cooking seafood thoroughly at appropriate temperature reduces the risk of some natural contaminants and improves digestibility for older adults.
- Older adults should consume two to three servings of seafood per week, one of which should be an oily fish product.

SEAFOOD TOMORROW RESULTS FOR OLDER ADULTS

FishChoice: a tool to assess the benefits and risks of seafood consumption

SEAFOOD TOMORROW has developed an improved version of the FishChoice tool to help inform consumers about their seafood consumption. Highlighting older adults as a specific group (women and men aged over 65), the tool guides consumers to make informed decisions about how they can gain the most nutritional benefit from their seafood consumption, while reducing exposure to chemical contaminants.

FishChoice compares the user's intake of nutrients and contaminants with the corresponding recommendations set by the European Food Safety Authority (EFSA). The tool then warns the user if their intake of nutrients is below the minimum recommended or above the maximum tolerable intake of contaminants. **FishChoice is free to use and available at fishchoice.eu.** An App version is also available for iOS Apple and Android from your app store.



Reduced sodium seafood products

High sodium in human diets is known to increase blood pressure, which in turn puts greater strain on the heart, arteries, kidneys and brain. This can lead to heart attacks, strokes, dementia and kidney disease. It is important to manage your sodium intake, especially for older adults when the risk of cardiovascular disease increases and cognitive health declines.

SEAFOOD TOMORROW has developed new ways of producing two different seafood products: smoked salmon and salmon pâté that have reduced sodium content by at least 25 %, but don't compromise on quality, taste or food safety.

It is hoped that the SEAFOOD TOMORROW formulas will be taken-up by seafood producers and processing companies and reduced sodium content products will soon be available on your supermarket shelves!



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SEAFOOD RECIPES FOR OLDER ADULTS

In collaboration with research and industrial partners and culinary schools from Belgium, France, Poland, Portugal, Spain and Sweden, **SEAFOOD TOMORROW** has created new, innovative seafood dishes using sustainable and lesser-known seafood species. Each dish was specifically developed to meet the nutritional needs of pregnant women, children and older adults: groups known to benefit from seafood consumption. The dishes were judged on their nutritional quality, feasibility of scaling for use in restaurant and catering environments, and of course taste! The winning recipes have been published in the **SEAFOOD TOMORROW E-Recipe Book** which is available to download at: seafoodtomorrow.eu



BLUE WHITING 'MEATBALLS' WITH VEGETABLES AND MARINARA SAUCE

by the Faculty of Gastronomic Sciences - Basque Culinary Center of Mondragon Unibertsitatea, San Sebastian, Spain

Species: Blue Whiting (*Micromesistius poutassou*)

Recipe for 4 people

INGREDIENTS

- 300 g of blue whiting
- 100 ml of fish stock
- 1 egg
- 400 g of chickpeas
- 36 g of breadcrumbs
- 100 g of broccoli
- 100 g of Shiitake mushrooms
- 120 g of boiled lentils
- 70 g of onion
- 20 g of raisins
- 20 g of raisins
- 48 g of tomato sauce
- 24 g of evaporated milk
- 6 g of cornstarch
- 20 ml of white wine
- 24 ml of extra virgin olive oil
- 4 g of cod liver oil
- wakame seaweed
- 1 g of garlic
- 1 g of paprika

METHOD

1. Chop the garlic, onion, broccoli, and Shiitake mushrooms.
2. Clean the blue whiting and mince it in a mincing machine (98 mm, 1 °C). If you don't have a mincing machine, simply use a blender and fry in a large pot.
3. Make the meatballs mixture: mix the blue whiting, evaporated milk, egg, breadcrumbs, white pepper and cod liver oil in a mixing machine (4 °C, 9 minutes).
4. Stir fry the chopped garlic, 10 g of the chopped onion, and 1 ml of extra virgin olive oil at 110 °C for 4 minutes.
5. Add the paprika and tomato sauce and stir.
6. Add the white wine and allow the alcohol to evaporate.
7. Cook the chickpeas for 40 minutes.

8. Prepare the stock: add most of the fish stock (reserve about 1 tablespoon for later) and wakame seaweed. Cook at 85 °C for 20 minutes.
9. At the same time, stir-fry the rest of the chopped onion, broccoli, and Shiitake mushrooms, as well as the raisins and boiled lentils, using approximately 20 ml of extra virgin olive oil in a pan and spatula (we recommend exoglass, but any spatula is good) (110 °C, 10 minutes).
10. Take 100 g of the meatball mixture (step 3), make 4 balls (each approximately 25 g) and put them on a baking tray.
11. Cook the balls in a steam oven at 140 °C, 70 % steam, for 3 minutes. Alternatively, place a pan of boiling water in a conventional oven to create steam.
12. Blend and strain the stock that you prepared in step 8.
13. Dissolve about 1 tablespoon of fish stock and 6 g of corn-starch and stir until homogeneous.
14. Prepare the sauce: integrate the two stock mixtures and cook at 70 °C, until thick.
15. Add the meatballs (step 10) to the sauce (step 13) and cook until it reaches 90 °C. Serve the meatballs, sauce, vegetables and chickpeas on the side.





SEAFOOD RECIPES FOR OLDER ADULTS

MUSSEL SOUP

by Kristianstad University, Sweden

Species: Blue mussel
(*Mytilus edulis*)

Recipe for 4 people

INGREDIENTS

- 600 g of shelled mussels
- 600 g of potatoes
- 300 g of parsnips
- 300g of celeriac
- 600 g of carrots
- 300 g of swede
- 3 yellow onions
- 1 cup of white wine
- 2 tablespoons of tomato purée
- 2 garlic cloves
- 1 cup of fresh cream
- 3 tablespoons of fish stock
- 1 red chili
- 1 bundle of parsley
- Pinch of salt
- Pinch of pepper



METHOD

1. Peel and cut the carrots, parsnip, celeriac, swede and onions into small pieces and fry in some oil for 2 to 3 minutes.
2. Add the potatoes (cut into pieces), along with chopped chili and garlic.
3. Fry on a high heat for 3-5 minutes, add the tomato purée and stir. Add the white wine and the stems of the parsley. Chop the leaves and set aside for later.
4. Let the wine reduce down to half before adding the water and fish stock.
5. Simmer until the vegetables are soft, then add the fresh cream, salt and pepper.
6. Add the mussels and let the soup simmer for 3-5 minutes, or until the mussels are soft.
7. Add the chopped parsley at the end and serve.

Suggestions

To increase vitamin D, add cod liver oil (a small quantity is enough).

To reduce the fat, use light cream.