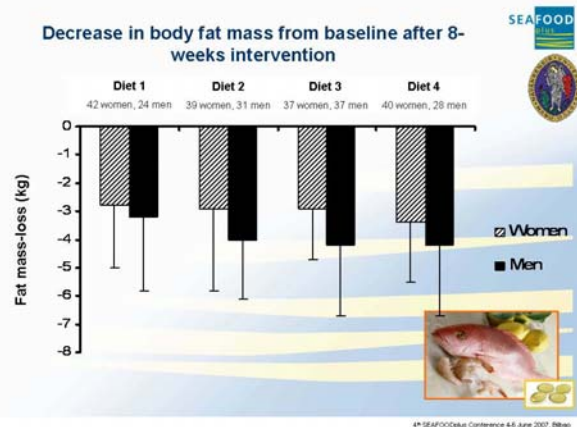
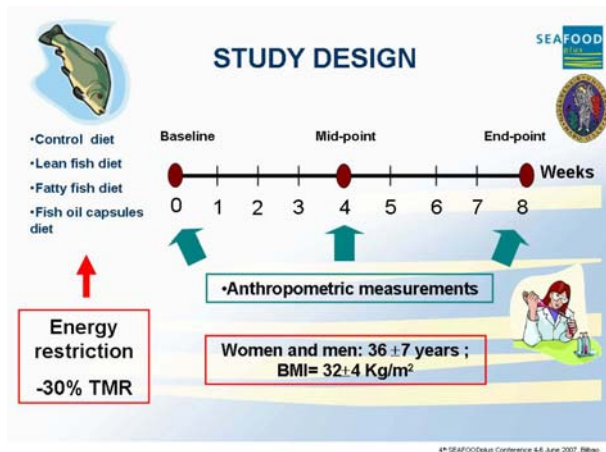


Seafood diet and weight management in young Europeans with overweight and obesity problems

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Specific seafood constituents could additionally improve the beneficial effects of a hypocaloric diet in overweight subjects. The role of dietary fish consumption as a component of a weight loss diet in relation to cardiovascular health have been described, and are most often linked to omega-3 fatty acids. However, it cannot be excluded that the fish proteins contribute to the positive effect of dietary fish consumption.

In this sense, the aim of the study was to assess the effect of including seafood and fish oils as part of an energy restricted diet distinguishing between effects of fish proteins, fish oils in supplements and oils as part of fatty fish on weight loss in young overweight adults.

Design A total of 324 men and women (age 20-40 years with a body mass index of 27.5-32.5 kg/m²) from Iceland, Spain and Ireland were recruited and randomized to one of four isocaloric diets:

- (1) **Control diet** (sunflower oil capsules, without fish or fish oils).
- (2) **Lean fish** (cod 3 times/week, and at least 150g each time)
- (3) **Fatty fish** (salmon 3 times/week, and at least 150g each time)
- (4) **Fish oil capsules** (DHA/EPA capsules, no seafood)

Measures Each person was instructed to follow a Hypocaloric diet in eight consecutive weeks. The diet was restricted by -30% in energy on an individual basis. Anthropometric measurements such as weight, height, waist to hip ratio, skinfold-thickness were collected at baseline, midpoint and endpoint.

Results In four weeks, from baseline to midpoint, an average man (95 kg having 1600 kcal/day) lost 3.55 kg (95% CI:3.14-3.97) on diet (1), 4.35 kg (95% CI:3.94-4.75) on diet (2), 4.50 kg (95% CI:4.13-4.87) on diet (3) and 4.96 kg (95% CI:4.53-5.40) on diet (4). The weight loss from midpoint to endpoint was 0.45 (0.41-0.49) times the observed weight-loss from baseline to midpoint. The diets did not differ in their effect on weight-loss in women. Changes in measures of body composition were in line with changes in body weight.

Conclusion In young, overweight men, the inclusion of either lean or fatty fish, or fish oil as part of an energy-restricted diet resulted in ~ 1 kg more weight-loss after four weeks, than did a similar diet without seafood or supplement of marine origin. The addition of seafood to a nutritionally balanced energy-restricted diet may boost weight loss.

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