WHITE FISH REDUCES CARDIOVASCULAR RISK FACTORS IN PATIENTS WITH METABOLIC SYNDROME: THE WISH-CARE STUDY, A MULTICENTER RANDOMIZED CLINICAL TRIAL

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**ABSTRACT**

Reduction of cardiovascular risk with high consumption of fish in diet is still a matter of debate, and concerns about heavy metal contamination have limited consumption of oily fish. We aimed to evaluate the effect of regular ingestion of white fish on cardiovascular risk factors in patients with metabolic syndrome.

Multicenter randomized crossover clinical trial including 273 individuals with metabolic syndrome. An 8-week only-one dietary intervention: 100 g/d of white fish (Namibia hake) with advice on a healthy diet, compared with no fish or seafood with advice on a healthy diet. Outcomes were lipid profile, individual components of the metabolic syndrome, serum insulin concentrations, homeostasis model of insulin resistance, serum C-reactive protein and serum fatty acid levels. We found a significant lowering effect of the intervention with white fish on waist circumference (P < 0.001) and diastolic blood pressure (P = 0.014). A significant lowering effect was also shown after the dietary intervention with fish on serum LDL concentrations (P = 0.048), whereas no significant effects were found on serum HDL or triglyceride concentrations. A significant rise (P < 0.001) in serum EPA and DHA fatty acids was observed following white fish consumption.
Overall adherence to the intervention was good and no adverse events were found.

In individuals with metabolic syndrome, regular consumption of hake reduces LDL cholesterol concentrations, waist circumference and blood pressure components of the metabolic syndrome.