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D14 Dietary Patterns

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Dietary patterns and fish foods as source of nutrients: Finland

In table 1. and 2. are shown dietary patterns in Finnish adults (FINDIET 2002). The patterns were formed using principal component analysis. The analysis show that it is difficult to find any clearly defined dietary patterns among Finnish adults. Previously food pattern in Finland were defined by dichotomies high/low status foods and healthy/unhealthy foods (Roos 1998). High status foods were vegetables, fruit and berries, juice, cheese and candies. Low status foods were butter, milk, bread and cereals and potatoes. Nowadays dietary patterns are more varied and culturally more divergent. It is noteworthy that fish together with meat and legumes forms one pattern. This means that fish is not eaten in stead of meat but with meat (not in the same meal). In the table 3. the fish foods as nutrient source is described. Fish foods are the most important source of vitamin D, EPA, and DHA. They are also an important source of protein, sodium and selenium, but a minor source for energy, saturated and monounsaturated fatty acids and carbohydrates.

Table 1. Dietary patterns based on principal component analysis in Finnish men (aged 25-64 years). Only loadings >0.3 are shown. Only factors (patterns) whose eigenvalue>1.00 are shown.

Food group/pattern	Traditional rural	Health-concious	Meat-fish	Egg-vegetarian	Unhealthy	Simple
Potatoes and other tubers	0.416113					-0.48329
Vegetables		0.718367				
Legumes			0.713779			
Fruits		0.407338			-0.38625	
Dairy products	0.383762	-0.43866				0.383509
Cereals and cereal products	0.519528					
Meat and meat products			0.408196	-0.45504	0.330179	
Fish and shellfish			0.583353		-0.49178	
Eggs and egg products				0.723999		
Fat	0.682352					
Sugar and confectionary	0.719677					
Cakes	0.602864					
Non alcoholic beverages	0.406528	0.470146				0.342494
Alcoholic beverages	-0.34211				0.641954	
Condiments and sauces				0.362265		0.562178
Soups, bouillon		0.599343		0.405644	0.31124	
Miscellaneous			-0.35295			0.40695

Table 2. Dietary patterns based on principal component analysis in Finnish women (aged 25-64 years). Only loadings >0.3 are shown. Only factors (patterns) whose eigenvalue>1.00 are shown.

	Traditional rural	Urban health-concious	Traditional urban	Fish and alcohol	Simple	Vegetarian
Potatoes and other tubers	0.488284	-0.40294				0.375275
Vegetables	-0.31403	0.423742	0.427723			0.431714
Legumes		0.445652		-0.31166		
Fruits		0.38849			0.587361	0.332565
Dairy products	0.328813	-0.34663				0.447184
Cereals and cereal products		0.381829	0.558439			
Meat and meat products	0.372162	-0.30016	0.466592			
Fish and shellfish		0.338874		0.691809		
Eggs and egg products	0.437701				0.311286	
Fat	0.652744		0.364845			
Sugar and confectionary	0.453688	0.315604		-0.4193		-0.39103
Cakes	0.612786		-0.31817			
Non alcoholic beverages					-0.48204	
Alcoholic beverages			0.360633	0.301228		-0.31631
Condiments and sauces			0.305642		0.554861	
Soups, bouillon	-0.44372		0.395993			
Miscellaneous		0.622757		0.426821		

Table 3. Proportion of intake of fish foods of total nutrient intake in Finnish men and women.

	Men		Women	
	Absolute intake	%	Absolute intake	%
Energy, KJ	296	3	196	3
Carbohydrates, g	2	1	2	1
Total fats, g	4	5	3	5
- Saturated fatty acids, g	1.2	3	0,8	3
- Monounsaturated fatty acids, g	1,4	5	0.9	5
- Polyunsaturated fatty acids, g	1.0	8	0.6	7
-EPA, mg	86.4	82	53.2	77
- DHA, mg	211	80	140	18
Protein , g	6	7	4	6
Sodium, mg	857	9	522	8
Selenium, µg	8.28	10	5.49	10
Vitamin D, µg	2.57	45	1.66	44
Folate, µg	5.03	2	3.54	2

Reference

Roos, E. Social patterning of food behaviour among Finnish men and women. Publications of the National Public Health Institute A6/1998.