European and Austrian Ready Meals: Are they Recommendable for the Diet of Children and adolescents?

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Since the ready meal market is steadily growing and scientific studies on the nutrient composition of these meals are rather limited, one aim of the European project “Double Fresh” was to determine the content of nutritional parameters such as energy, fat quantity and quality and other macronutrients in different ready meals.

In total 13 meals from three European regions (Northern Europe, Benelux countries and Central Europe) as well as 21 meals from Austria were prepared following the package-instructions and their contents of fat, protein, sugars, salt and the fatty acid patterns were analyzed. Energy and total carbohydrates were calculated.

In general, large variations between the meals were found, whereas the location (Austria or Europe) showed no significant impact. Only the package sizes of the Austrian meals (360 $\pm$ 30.4 g) were significantly lower than those of the other European meals (440 $\pm$ 87.3 g) ($p<0.01$). Energy contents of all tested meals ranged from 265 to 945 Kcal/serving, whereby most of them contained less energy than recommended for children and adolescents. Fat contents varied from 2.46 to 34.0 g/serving and carbohydrates from 25.4 to 143 g/serving. Based on total energy about half of the meals contained more fat (> 30 E%) and less carbohydrates (< 50 E%) than recommended. Regarding the fat quality, saturated fatty acids (SFA) varied strongly from 1.4 to 22.3 E% and polyunsaturated fatty acids (PUFA) from 0.9 to 14.4 E%. More than the recommended 10 E% of SFA were found in 16 out of 34 meals. Only meals containing salmon yielded significant amounts of long chain omega 3 PUFA (20:5n3, 22:6n3) ranging from 0.4 to 2.2 g/serving depending on the fish size. Salt ranged from 3.4 to 7.7 g/serving. Hence, all meals contained more salt than recommended per serving (> 1.8 g), some even more than recommended per day (> 6 g).

As expected the nutritional weak points of the analyzed meals were the fat, SFA and salt contents, which mostly were too high and the total carbohydrates, which were too low.