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Demographic diversity of TDS foods across Europe

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Although no specific guidelines exist, it is recommended that foods selected for total diet studies (TDS) represent 80–95% of the population's diet⁽¹⁾. Typically, the first step involves analysing population food intakes. The selected foods are then grouped into food groups for further sampling and analysis. The aim of this study was to investigate the demographic diversity of TDS food groups using data from the EFSA Comprehensive Database⁽²⁾, which was developed from national food consumption surveys and represents 7 population groups for 22 European countries. The percentage contribution of these food groups to the diet are presented for each population group. TDS food selection (prior to food grouping) was based on 90% of the weight of food consumed and a consumer rate $\geq 5\%$.

Population groups*	Infants	Toddlers	Children	Teens	Adults	Elderly	Very Elderly
Food groups	Percentage contribution of TDS foods per food group to the overall diet Weighted Mean						
Grains & grain products	2.4	5.4	8.9	9.3	6.3	5.9	7.2
Vegetable & vegetable products	1.5	3.8	3.0	2.9	3.4	3.7	4.1
Starchy roots & tubers	1.7	3.8	4.2	4.0	2.6	3.2	4.1
Legumes, nuts & oils seeds	–	0.1	0.2	0.4	0.5	0.2	0.2
Fruits & fruit products	2.0	5.3	5.8	3.9	4.1	6.4	7.3
Meat & meat products	0.8	2.7	3.5	4.3	3.3	2.7	3.1
Fish & other seafood	–	0.1	0.4	0.4	0.2	0.4	0.4
Milk & dairy products	17.8	23.3	25.2	13.7	7.0	6.5	6.0
Eggs & egg products	–	0.4	0.5	0.3	0.5	0.4	0.4
Sugar & confectionary	1.1	0.8	1.0	0.8	0.4	0.3	0.4
Fats & oils	0.4	0.7	0.9	0.6	0.7	0.9	1.2
Fruit & vegetable juices	2.9	6.1	7.8	5.7	3.3	2.5	1.5
Non-alcoholic beverages	3.4	2.7	8.1	13.4	21.1	21.9	20.3
Alcoholic beverages	–	–	–	0.7	6.5	5.6	4.7
Drinking water	49.7	27.0	18.0	23.1	26.0	25.1	22.4
Herbs/spices & condiments	–	0.01	0.4	0.6	0.4	0.2	0.3
Food for infants & children	12.7	5.2	0.1	–	–	–	–
Nutritional products	–	–	–	–	–	–	–
Composite food	0.03	0.5	5.1	3.5	1.5	1.6	3.7
Desserts & other foods	–	0.9	1.7	0.9	0.3	0.3	0.4
Totals	96.4	88.8	94.8	88.5	88.1	87.8	87.7

*Availability of surveys varied across countries (n): Infants 2; Toddlers 7; Children 13; Teens: 10; Adults; Elderly 7; Very Elderly 6.

Using this approach, the percentage (%) contribution to the diet differed appreciably for almost all food groups for infants in comparison to the other population groups. Individual food group contribution varied across population groups, with milk and dairy products contributing more to the younger age groups, while drinking water was the greatest % contributor to the diet across all groups apart from children. This research shows that while TDS may account for 80–95% of the diet, demographic diversity exists regarding food groups and should be taken into account when planning a TDS food list.

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1. EFSA, FAO and WHO (2011) *EFSA Journal*; 9(11): 2450.
2. EFSA Comprehensive European Food Consumption Database (2011) *European Food Safety Authority*.