

Are healthier diets always more environmentally friendly and affordable? Evidence on diet sustainability from the National Diet and Nutrition Survey

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National dietary guidelines provide advice on food and nutrient intake, however the average diet of the population in many countries, deviates considerably⁽¹⁾. However, a healthy diet is not necessarily sustainable. Depending on the combination of food items consumed, the environmental footprint can vary⁽²⁾. Furthermore, it's important to examine which healthy diets are affordable and whether environmentally friendly diets can be accessible to everyone⁽³⁾. In this study, the associations between different environmental indicators, the healthiness and the cost of diets will be explored.

Dietary data from UK National Diet and Nutrition (NDNS) survey were used⁽⁴⁾. Measures of environmental sustainability for each food item were assigned for greenhouse gas (GHG) emissions, freshwater use and land use⁽⁵⁾. Food prices were also assigned to each food item to estimate the average daily diet cost per individual⁽⁶⁾. The health score assigned was based on the consumption of fruits, vegetables and fish and the intake of total fat, saturated fat, trans fat, free sugars, salt and calories⁽⁷⁾. Regression analysis was used to evaluate the associations between the environmental indicators, cost and health score.

An average diet for each participant was constructed. Diets were associated with 5.6 kg CO₂eq/day (95% CI 4.9, 6.5), 7.7 m²*year/day (95% CI 7.2, 8.1), and 0.41 m³/day of freshwater use (95% CI 0.38, 0.43). The average daily diet cost was £4.80/day (95% CI 4.60, 5.30). Meat products accounted for 35% of the total CO₂eq/day, 17% of the average daily cost, 36% of the land use and 10% of water use. Dairy products contributed 40% to both land use and freshwater use, while accounting for 30% of the CO₂eq/day and 8% of the cost. Healthier diets were associated with 20% less CO₂eq/day (95% CI 16%, 24%), 25% of lower land use (95% CI 16%, 24%), 8% higher monetary cost (95% CI 4%, 11%) while no evidence of an association was found for the water use. Diets of women were associated with 25% less GHGE (95% CI 20%, 30%), 26% lower in land use (95% CI 19%, 32%) and 25% (95% CI 18%, 29%) higher in monetary cost, due to lower consumption of meat. Finally, diets of women were associated with 15% (95% CI 8%, 22%) higher water use, due to higher dairy consumption.

Meat consumption in the NDNS is associated with high GHG emissions, land use and dietary cost. Healthier diets were lower in GHG emissions and lower land use, higher in monetary cost and no association with freshwater use. Quantification of the healthiness of diets can strengthen the evaluation of the relationships different aspects of sustainability and provide the public with valuable information to inform their choices about more sustainable diets.

References

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