

A WAY FORWARD TO IMPROVE NUTRITION WITH STABLE ISOTOPES



1 People need food and water to survive, but nutritious food is central to healthy living. Energy-dense fat, protein and carbohydrates need to be accompanied by vitamins and minerals (micronutrients) to ensure proper nutrition. Malnutrition, an inappropriate balance of nutrients, can occur with too much or too little of food.

(Photo: A. S. Gorisek, IAEA)



2 The IAEA works with other agencies to evaluate interventions in Member States that are designed to address the problem of malnutrition. Stable isotope techniques can be used to validate the information collected through the use of questionnaires and simple measurements. Capacity building through training and the provision of equipment enables nutritionists worldwide to use these methods in community settings as they are safe, non-invasive and can be used with adults and children of all ages. (Photo: H. Aguenau, Morocco)



3 Compared to other conventional techniques, these stable isotope methods, which do not involve radiation, offer much more sensitive and specific measurements to evaluate nutritional and lifestyle interventions, for example food fortification, healthy eating and physical activity programmes.

(Photo: E. Aguilar Lema, Ecuador)



4 Stable isotope techniques help scientists to determine whether the right amounts of micronutrients are received, utilized and retained by the body; to establish the amount of lean tissue and fat in body composition; and to estimate the number of calories spent each day. They can also tell whether breastfed babies are exclusively breastfed according to the WHO's recommendations, and how much milk they take in. This provides Member States with information to help them design or improve their national health and nutrition programmes.

(Photo: M.E. Valencia Juillerat, Mexico)

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