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Nutraceuticals, Frailty and Polypharmacy in the Oldest Old

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Malnutrition and nutritional problems are common in older adults. Multiple chronic disease, inflammation, cognitive and functional impairment, geriatric syndromes (including delirium, falls or chronic pain) and drug use (i.e. polypharmacy, adverse drug reactions) may play a role in the onset of malnutrition and nutritional problems. In particular, drugs and nutrition are closely connected. Nutritional status may influence the pharmacokinetics and pharmacodynamics of many drugs, conversely, drugs can impair nutrition by causing adverse drug reactions such as nausea and loss of appetite. Physiological factors occurring in advanced age can impact on nutritional status, including changes in secretion and action of hormones that regulate appetite, changes in gastrointestinal motility, taste loss and functional decline of multiple systems, including organs that directly affect drug disposition. Nutrients and drugs might share the same receptors for absorption, metabolism and excretion. Limiting drug prescriptions to essential medications and periodic revaluations of drug regimens are essential to minimize drug-nutrient interactions, ultimately leading to improvement in nutritional status. Similarly, evaluation of nutritional status is a key step to improve quality of prescribing: it is crucial to identify nutritional problems which can be related to drug use and assessment of nutritional factors which may influence drug efficacy.