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Sommario/riassunto Altered metabolism is known to be associated with a higher incidence

of Alzheimer's disease (AD). Diabetes type 2, obesity, and metabolic syndrome are considered risk factors for the development of dementias, including AD. These metabolic diseases may have a genetic predisposition, but most of them are caused by environmental factors and life-style. Most research has focused on the effect of a high-fat diet (HFD) and sweetened beverages that induce obesity. Importantly, a HFD can also trigger oxidative stress, neuro-inflammation and cognitive decline. Less is known, however, about beneficial effects of diet on cognition, such as slowing the progression or preventing AD by ingesting whole fruits, vegetables, fish and oil. It is important to highlight the difference between vitamin/mineral supplements and whole food, as it appears that the former are clinically ineffective, while multiple ingredients in the latter act synergistically to improve cognition. As AD is a disease of slow progression, therapies should start several decades before clinical symptoms can be observed; one strategy can be the ingestion of healthy food in those subjects with one or more risk factors (genetic, environmental, life-style) already in their 40s, just when some brain metabolic disturbances start to develop. This dietary therapy can overcome the increased reactive oxygen species, protein deposition and synaptic failure, characteristic of AD. This research topic will cover a range of research articles, case studies, opinion and mini-reviews, all focused on describing the damaging

effects of an industrial diet on cognition as well as on highlighting the beneficial effects of a healthy diet to prevent AD. We believe that we still have time to fight against the negative impact of our industrialized cultures, and adopt better eating habits, increase exercise and slow down our life style to prevent increasing dementia in the aging population. Also, all these topics has been a product of intensives investigations, with a great life hope, and we hope you all enjoy reading this e-book.