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Title: LHL-CRSEGM - Long-term Health and Longevity through Caloric Restriction and Symbiotic Equilibrium with Gut Microbiome

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ABSTRACT

CONCEPTS IN LONGEVITY AND LONG-TERM HEALTH: The prolongation of life span achieved in recent decades is the triumph of modern medicine. The lead challenge existing now is to promote healthy life span along with reducing incidence and severity of chronic and degenerative diseases, and morbid frailty associated with later years.

CALORIC RESTRICTION AND GUT MICROBIOME: There is evidence that optimal CR along with adequate nutrition can reduce adiposity, chronic inflammation and insulin resistance, and promote health and quality of life along with satisfactory level of activity of daily living in older adults. There occurs loss of gut microbiota diversity during later years affecting the aging process adversely and associated with increased frailty and degenerative diseases along with cognitive deterioration.

GUT MICROBIOTA AND IMMUNOSENESCENCE: Diet-microbiota-health interactions may be viewed in broader context of genetic and epigenetic factors. The lifestyle changes including dietary alterations accompanying aging have impact on gut microbiota, which affects the cardiometabolic and immunological processes, and lead to accelerated aging-related health loss. Age-associated alterations in composition, diversity and functional features of intestinal microbiota have also been associated with decline in immune system functioning (immunosenescence) and low-grade chronic inflammation (inflam-aging), which accompany various aging-associated pathologies.

SCPOE OF INTERVENTIONS: The gut microbiota have crucial impact on aging process, and as documented by recent studies the microbiota-targeted interventions for normalization of gut microbiota may have health-span-promoting effects. CR with adequate nutrition and microbiota-targeted dietary and probiotic, prebiotic and synbiotic interventions are likely to favourably modulate the host health and aging process by enhancement of antioxidant activity, suppression of chronic inflammation and improvement of immune homeostasis.

KEYWORDS

Aging process, Caloric restriction, Chronic degenerative diseases, Gut microbiome, Intestinal microbiota, Immunosenescence, Inflam-aging, Longevity, Prebiotic, Probiotic, Synbiotic.

BIOGRAPHY

Dr Vinod Nikhra is a Senior Consultant Physician and Faculty at NDMC Medical College and Hindu Rao Multi-speciality Public Hospital, New Delhi, India. He is a healthcare administrator, academician and clinician. He has been a Visitor at Cleveland Clinic Foundation, Cleveland and an Observing Physician at Alabama Medical Center – a tertiary care hospital in Opelika, Alabama, USA. He has been elected a Fellow by International Medical Sciences Academy and the Royal Society of Medicine, London. He has been Editor of 'Madhya, the midage', the official Journal of Association for Health in Middle Age during 2003-2006. He has been on Reviewer panel of, among others, the Family Practice, an Oxford University medical journal and International Journal of Obesity. His published books include, 'Aging slowly, Living longer' and 'The Anti-obesity Guide'. Over the years he has contributed about hundred papers in leading national and international medical journals.

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