

**BOOK OF POSTERS OF 2<sup>nd</sup> SCIENTIFIC CONFERENCE  
“LIFESTYLE MEDICINE FOR LONGEVITY. BLUE ZONES INSPIRATIONS”  
23-24 MAY 2024, POZNAŃ, POLAND**

1.

**Non-Alcoholic Fatty Liver Disease: Overview of Risk Factors, Pathogenesis, and Management Strategies**

**Victoria Duliński, Hady Kobrosly & Joseph Koch**

*Poznan University of Medical Sciences, Poznan, Poland – MD students*

Abstract

Non-alcoholic fatty liver disease (NAFLD) is a prevalent liver disorder characterized by the accumulation of fat in the liver in the absence of excessive alcohol consumption, in contrary to alcoholic fatty liver disease. This condition ranges from simple steatosis to non-alcoholic steatohepatitis (NASH), which can progress to advanced fibrosis, cirrhosis, and hepatocellular carcinoma. The rising global prevalence of NAFLD is closely associated with the obesity epidemic, metabolic syndrome, and type 2 diabetes, positioning it as a significant public health concern. This poster provides a comprehensive overview of NAFLD, highlighting key risk factors such as obesity, insulin resistance, dyslipidemia, and genetic predisposition. It explores the pathogenesis of NAFLD, including the roles of lipotoxicity, oxidative stress, and inflammation in liver injury. Additionally, it examines the diagnostic approach to NAFLD, which often involves a combination of imaging modalities and non-invasive biomarkers. Management strategies for NAFLD are also discussed, emphasizing the importance of lifestyle modifications such as diet and exercise, as well as pharmacological interventions for advanced cases. Emerging therapies targeting specific molecular pathways involved in NAFLD progression are presented as promising areas of future research. By raising awareness about NAFLD, this poster demonstrates how early intervention and effective treatment can reverse the progression of this disease and significantly enhance individuals' lifespan. The ability to address NAFLD in its early stages through lifestyle modifications and targeted therapies presents an opportunity to improve long-term health outcomes and contribute to overall longevity.

2.

**Parallels Between Ayurvedic & Allopathic Medicine**

**Shaun Joy**

*Poznan University of Medical Sciences, Poznan, Poland – MD students*

3.

**Decoding Gut Viruses: Keys to Health and Longevity**

**Arbesa Tashevcij, Michael Krol, and Majd Shoufany**

*Poznan University of Medical Sciences, Poznan, Poland – MD students*

Abstract

The gut microbiome (GM) has attracted significant scientific attention in recent years, enabling thorough exploration of its composition and its profound impact on health. It is widely recognized that the composition of the GM plays a vital role in the body's ability to fight infections and promote longevity. Despite this recognition, the viral aspect of the gastrointestinal tract remains largely unexplored across various life stages. The human virome encompasses a collection of viruses present throughout the body, including bacteriophages infecting bacteria, viruses targeting human cells, and transient viral entities. Bacteriophages within the gut virome exert influence on the microbiome's

composition through various stages of their replication cycle, including lytic, lysogenic, pseudolysogenic, and bacterial budding lifecycles (Cao et al., 2022). Recent research by Johansen et al. (2023) examined the gut viromes of 195 individuals, including centenarians from Japan and Sardinia. The study revealed that centenarians possess a more diverse set of viruses in their gut compared to both younger adults (age >18) and older individuals (age >60). This diversity encompasses previously unknown viral genera associated with Clostridia bacteria. Moreover, there is evidence of an increased viral population in individuals exhibiting higher bacteriolytic activity. The functional impact of these viruses on bacterial physiology includes regulation of horizontal gene transfer, supporting essential steps in sulfate metabolic pathways and providing the host with genes necessary to fight off infections. Centenarians' gut viruses and bacteria may demonstrate enhanced efficiency in converting certain compounds, such as methionine and taurine, into substances that promote gut health. Notably, through the sulfate metabolic pathway, there is an elevated production of hydrogen sulfide in the gut of centenarians, which has been shown to promote colonization resistance and maintain gut lining integrity, aspects that typically decline with age (Johansen et al., 2023). Furthermore, research indicates that lifestyle factors such as smoking, physical activity, and carbohydrate consumption may influence the composition of the gut virome (Istvan et al., 2024). These advancements in gut virome research offer significant potential for understanding how lifestyle modifications can enhance overall health and longevity.

4.

#### **Current Disagreements on Diet in Prevention of ASCVD**

*Jan Karol Kaliński & Eunjee Kim*

*Poznan University of Medical Sciences, Poznan, Poland – MD students*

##### Abstract:

Atherosclerotic cardiovascular disease (ASCVD) is the leading cause of mortality globally. Despite a wealth of knowledge regarding the disease process, there remains a level of uncertainty regarding dietary best practices. In both scientific and non-scientific circles, there is continued interest in diets that contradict well-established dietary guidelines. Three primary points of contention arise around the roles of dietary fats, dietary cholesterol, and dietary supplements/“neutraceuticals”. A large body of evidence, both in the form of population studies and randomized trials, demonstrates the benefits of low saturated fat and trans-fat diets in the prevention of ASCVD, however recent popular interest in high-fat, low-carbohydrate diets, as well as a general mistrust of the medical establishment have contributed to the notion that there exists a wider spectrum of “healthy” fats. Recent research has challenged the long-standing belief that dietary cholesterol significantly impacts blood cholesterol levels and ASCVD risk. While some studies suggest a modest association between dietary cholesterol intake and serum low-density lipoprotein cholesterol (LDL-C), others show little to no effect, suggesting the importance of considering individual variations in cholesterol metabolism and dietary patterns when evaluating its role in ASCVD prevention. The role of plant-based supplements and “neutraceuticals” in ASCVD prevention continues to garner interest. In particular, plant sterols and red yeast rice (a source of monacolin K, found in lovastatin) continue to be popular alternatives to pharmaceutical lipid-lowering therapy. Though numerous studies exist showing LDL-C-reducing effects, these effects are modest at best compared to statins, and the derived benefits are less consistent on account of poor regulation of supplement manufacturers. As alternatives to well-researched dietary interventions continue to gain traction in the public sphere, where mistrust of the medical establishment is increasingly common, the need is apparent for more effective summarization and dissemination of well-established conclusions reached by experts.

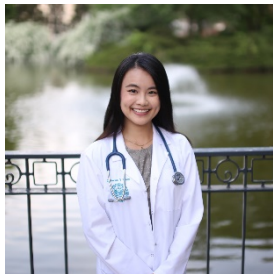
#### **5. Interplay Between Stress, Immune Function, and Lifestyle Factors: Implications for Health and Disease**

**Yung-Yi Lan, MA, Rujith Kovinthapillai, BSc**

*Center for Medical Education in English MD, Poznan University of Medical Sciences, Poznan, Poland*

**Abstract:**

The intricate interplay between stress, immune function, and lifestyle factors holds significant implications for overall health and disease outcomes. This review explores the multifaceted relationship between stress and the immune system, mediated through neuroendocrine pathways such as the hypothalamic-pituitary-adrenal (HPA) axis and the sympathetic nervous system. Chronic stress has been shown to suppress immune function, leading to reduced responses to infections, impaired wound healing, and decreased vaccine efficacy. Lifestyle factors including nutrition, physical activity, sleep, and social support also play crucial roles in modulating immune function and inflammation. Understanding these interactions is essential for developing effective strategies to prevent and manage chronic diseases. Furthermore, the impact of stress on the microbiome further complicates this relationship, highlighting the need for holistic approaches to health promotion. This presentation provides a concise overview of the complex interplay between stress, immune function, and lifestyle factors, underscoring the importance of addressing these factors collectively to optimize health and well-being.



**Yung-Yi Lan, MA**, a medical student at Poznan University of Medical Sciences in Poland, brings a unique interdisciplinary perspective to medicine, shaped by her academic background in Environmental Science and Evolutionary Biology. Beyond her studies, Yung-Yi is deeply engaged in sports, music, and the arts, reflecting a holistic approach to well-being that extends beyond traditional medical practice.



Rujith Kovinthapillai, also a medical student at Poznan University of Medical Sciences, seamlessly integrates his academic pursuits with a remarkable sporting background in competitive hockey and professional rowing. His passion for research extends to exploring lifestyle interventions that optimize overall quality of life, spanning physical, mental, and emotional well-being.

**6.**

**Regular physical activity, yoga practice and quality of life**

**Agnieszka Pluto-Prądkyńska, PhD**

*Lifestyle Medicine Lab, Chair of Pathomorphology and Clinical Immunology, Poznan University of Medical Sciences, Poznan, Poland*

Abstract:

Physical activity affects a higher quality of life, and physically inactive people have a significantly lower quality of life than physically active regardless of whether they are practising yoga. In addition, persons who are physically active and doing yoga have a higher level in psychological and environmental domains than physically active and non-yoga people. Yoga practice increases the ability to focus attention, control feelings, emotions, feelings of joy and satisfaction in life. (based on my doctoral thesis and study). Yoga is worth popularizing as a prevention and form of therapy.



**Agnieszka Pluto-Pradzynska, PhD**

*Lifestyle Medicine Lab, Chair of Pathomorphology and Clinical Immunology,  
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*Member of Polish Lifestyle Medicine Society, European Lifestyle Medicine Organization Member and  
Ambassador in Poland*

In 2023 I initiated and organized in Poznan, Poland, first Scientific Conference “Lifestyle Medicine for Longevity. Blue Zones Inspirations” ([www.lm4l-poznan2023.pl](http://www.lm4l-poznan2023.pl)), which sum up my work interests and experiences: I began my journey with Lifestyle Medicine (LM) in 2018 and acquired my Lifestyle Medicine Coach certificate in 2019. It was a natural consequence of my previous interest in lifestyle and immunity. In the same time grew up my interest into longevity Blue Zones – observing centenarians I saw that a lot of their life habits are expressed in LM tools. I understood that centenarians set an example and LM offers us tools for healthy and active longevity, like taking care of good-quality nocturnal sleep, respect to tradition, outdoors activities like walking, gardening, healthy social relationships and avoid stress and overeating.

As a teacher, I share my knowledge with MD students in Immunology Course, at Poznan University of Medical Sciences in Poznan (PUMS), where I defended PhD thesis at the Faculty of Health Sciences on the topic of 'Yoga, physical activity and quality of life' in 2020. My prior education includes a postgraduate degree in Hospitals Management (2014), and MSc in Management and Economics. I am also a Slavic Gymnastic for Women and yoga instructor, and have been practicing yoga since 2006. The most important value in my career has always been working with people. I help them to maintain a life-work balance, improve health, immunity and social relationships.