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The 'heart' of preventive cardiology: Lifestyle medicine for the treatment of cardiometabolic diseases

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With great interest we read the paper by Arne Janssen and colleagues.[1] We commend the authors for raising awareness within the preventive cardiology community for non-alcoholic fatty liver disease (NAFLD) and its emerging role as a risk indicator for atherosclerotic cardiovascular disease (ASCVD). The implication of this new understanding is to pursue a more multidisciplinary approach to address the unacceptable global disease burden attributable to the twin pandemic of metabolic and cardiovascular disease, and nicely aligns with a recently published *JACC Council Perspective* arguing in favour of implementing preventive cardiology as a subspecialty of cardiovascular medicine.[2]

We share the authors' view that NAFLD is linked to and/or might even constitute a pathogenic component of ASCVD.[1] It is now widely accepted that the accumulation of dysfunctional, ectopic adipose tissue in the liver and other organs instigates a cluster of local and systemic coordinated pathophysiological events that have been linked to high-risk atherosclerosis. These include but are not limited to atherogenic dyslipidaemia, endothelial dysfunction, oxidative stress, insulin resistance, compensatory hyperinsulinaemia and diabetes.[3] It is therefore of little surprise, as eloquently outlined by the authors, that the presence of NAFLD deserves a thoughtful cardiovascular risk assessment and evaluation for subclinical atherosclerosis to detect individuals who might benefit from lifestyle and therapeutic interventions aimed at prevention and management of ASCVD.[1]

We would like to extend the discussion by adding to Figure I, which nicely depicts the array of subspecialties and diseases in which preventive cardiology and management of cardiometabolic disease should be included in the optimal care path for the patient.[1] While we agree that all of the mentioned subspecialties and associated diseases are of great importance and strongly associated with ASCVD, we believe that sports and exercise medicine, nutritional medicine, sleep medicine and public health medicine also should be included as subspecialties contributing to preventive cardiology that play a crucial role in ASCVD prevention. It is important to note that lifestyle strongly modifies the genetically driven risk in ASCVD and that management of cardiometabolic diseases indeed must involve public health and lifestyle medicine.[4] Ensuring that every individual and/or patient receives access to comprehensive information and support for the implementation of physical exercise,[5] protective eating patterns (i.e. a low carb Mediterranean diet[6] and diets rich in long-chain n-3 fatty acids eicosapentaenoic acid and docosahexaenoic acid[4]), restorative sleep patterns and learning strategies to mitigate the physiologic response to distress[4] is of utmost importance. Furthermore, public health interventions aimed at decreasing sedentary time at work and the burden of environmental stressors such as tobacco smoke in public buildings, non-physiological light exposure (i.e. blue light) and noise and air pollution are necessary to control risk factors that are beyond the control of each individual.[4]

In conclusion, we would like to build upon the valuable framework presented by Arne Janssen and colleagues[1] by highlighting the paramount role of sports and exercise medicine, nutritional biochemistry, sleep medicine and public health medicine as important subspecialties in preventive cardiology that should be included in the care paths of cardiometabolic diseases. We posit that the metabolic signature of the high-risk phenotype is in large part an orchestrated and coordinated response to high-risk lifestyle risk factors.[4] Therefore, lifestyle medicine, both on an individual and on a public health level,

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has an indispensable role in the attempt to lower the unacceptable global burden of NAFLD and ASCVD.

Author contribution

All authors contributed to this letter. KL did the literature search, and drafted the letter. EL and JAD reviewed and edited the manuscript. All authors approved the final version of the manuscript.

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