

EDITORIAL

Metabolic dysfunction-associated steatohepatitis (MASLD) and metabolic dysfunction-associated steatohepatitis (MASH) require urgent attention by primary care physicians and endocrinologists



La esteatohepatitis asociada a disfunción metabólica (MASLD) y la esteatohepatitis asociada a disfunción metabólica (MASH) requieren atención urgente por parte de médicos de atención primaria y endocrinólogos

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In this editorial, we briefly address some of the most relevant issues surrounding metabolic dysfunction-associated steatotic liver disease, including its epidemiology, risk factors, and consequences and the urgent need for increasing awareness about it and early interventions to tackle it.

Non-alcoholic fatty liver disease (NAFLD) and its more aggressive phenotype, non-alcoholic steatohepatitis (NASH), are often overlooked by health systems but demand immediate attention due to their high and increasing prevalence and serious health consequences.¹ In recent years, there has been an important debate on the terminology used to describe these conditions, as the names NAFLD and NASH were considered stigmatizing by many, including healthcare professionals.² Moreover, these terms labelled the diseases

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for what they were not. In June 2023, global consensus was reached among stakeholders, including healthcare professionals, patient advocates and researchers, to change the nomenclature and definition.³ Steatotic liver disease (SLD) was chosen as the overarching term to encompass the various etiologies of steatosis. The names chosen to replace NAFLD and NASH were metabolic dysfunction-associated steatotic liver disease (MASLD) and metabolic dysfunction-associated steatohepatitis (MASH), respectively.

Free of the stigmatizing terms 'alcoholic' and 'fatty', this new terminology labels the diseases for what they are, all while reflecting a growing understanding of the intricate interplay between metabolic factors, such as obesity and type 2 diabetes (T2D), in the development and progression of liver disease. The adoption of MASLD underscores the systemic nature of the condition and its intimate connection to metabolic health. This nomenclature now more accurately reflects the complexity of the disease and highlights the pivotal role of metabolic factors in its pathogenesis. Future research will help to better define the diagnostic value of a single metabolic risk factor (e.g., T2D, obesity, dyslipidemia, hypertension) as a surrogate of insulin resistance and the importance of each of them in the metabolic dysfunction of MASH.⁴

Once considered to be an uncommon disease, MASLD is currently estimated to affect 38% of the global adult population, with this figure nearly doubling among people with T2D.⁵ The reasons behind this alarming rise are multifaceted and include an increasing prevalence of genetic predispositions, metabolic syndrome (MetS), physical inactivity, and unhealthy dietary habits. MetS, which is characterized by a combination of factors such as abdominal obesity, insulin resistance, high blood pressure, dysglycemia, and dyslipidemia, contributes significantly to the increased burden of obesity and T2D in the context of MASLD.¹

While MASLD might start as a benign accumulation of fat in the liver, it can progress to MASH, which is characterized by inflammation and liver cell damage. MASH can ultimately lead to fibrosis, cirrhosis, and hepatocellular carcinoma. Beyond the liver, MASLD and MASH are also associated with a higher risk of cardiovascular disease, T2D, non-hepatic cancers, sarcopenia, and other metabolic disorders.^{6,7} One of the most challenging aspects of MASLD is its largely silent progression. Initially, the condition might not present with any noticeable symptoms, making early detection elusive as individuals are unaware of their status and do not seek medical attention. Many individuals remain unaware of having a hepatic condition until they reach the MASH stage or progress to more advanced liver disease, making early diagnosis crucial.

Given the strong association between MASLD, obesity, and T2D, there is a critical need to involve primary care physicians and endocrinologists in the early detection, prevention, and management of MASLD.^{8,9} In most health systems and organizations, these care professionals are on the frontline of managing metabolic conditions and are therefore well-positioned to identify individuals at risk for liver disease. They can thus play a pivotal role in educating patients about the importance of liver health and in advocating and screening for SLD in high-risk populations.

Despite their burden, awareness around MASLD and MASH remains shockingly low among the general public. In one

study using the National Health and Nutrition Examination Survey database from the United States, only 4% of subjects who had MASLD were aware of their status.¹⁰ Many individuals do not know what MASLD is or how it can affect their health. This lack of knowledge can delay disease diagnosis and treatment, further exacerbating the problem. Healthcare professionals like endocrinologists and primary care physicians are well positioned to help in raising awareness about this serious health issue.

Several actions must be prioritized to properly address the global impact of SLD and all potential stakeholders should be involved.¹¹ For instance, more resources ought to be allocated to increase SLD related translational and clinical research in the field and public health and campaigns to raise awareness about SLD should be launched among at-risk populations. Additionally, the implementation of clinical guidelines in daily practice should be considered a priority by healthcare providers and scientific societies.^{9,12} As lifestyle interventions, including improved nutrition and physical activity levels, are the cornerstone of SLD prevention,¹³ a holistic approach involving social nutrition and prescribing is pivotal.¹⁴

SLD reflects a problem driven by social, commercial, and environmental determinants. To combat this public health threat, we must act swiftly, focusing on its prevention, early detection, and effective management that is inclusive of its potential comorbidities. It is time for all stakeholders, including primary care physicians and endocrinologists, to come together to mitigate the serious consequences of this condition on health and health systems.

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