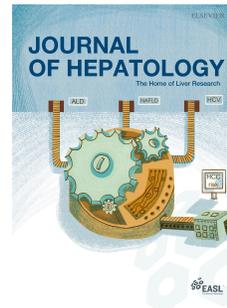


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**The sub-Saharan Africa position statement on the redefinition of fatty liver disease:
from NAFLD to MAFLD**

**C.Wendy Spearman¹, Hailemichael Desalegn², Ponsiano Ocama³, Yaw Asante Awuku⁴,
Olusegun Ojo⁵, Medhat Elsahhar⁶, Abdulmunem A Abdo⁷, Dennis Amajuoyi Ndububa⁸,
Yasser Fouad⁹, Musa Muhammed Borodo¹⁰, Masolwa Ng'wanasayi¹¹, Reidwan Ally¹²,
Reda Elwakil¹³.**

¹Division of Hepatology, Department of Medicine, Faculty of Health Sciences, University of Cape Town, Cape Town 7925, South Africa.

²Medical Department St. Paul's Hospital Millennium Medical College Addis Ababa Ethiopia.

³School of Medicine, Department of Medicine, Makerere University College of Health Sciences, Kampala, Uganda, President of the Ugandan Gastroenterology Society.

⁴Department of Medicine and Therapeutics, School of Medicine, University of Health and Allied Sciences, Ho, Ghana, President of Ghana Association for the Study of Liver and Digestive Diseases (GASLIDD).

⁵Gastroenterology and Liver Pathology Unit, Department of Morbid Anatomy, Obafemi Awolowo University and Teaching Hospital Complex, Ile Ife, Nigeria.

⁶Egyptian Association for the Study of Liver and Gastrointestinal Disease (EASLGD), Police Medical Academy, Cairo, Egypt.

⁷Ibn Sina Hospital, Khartoum, Sudan, president elect of AMAGE, Vice president of the Sudanese Society of Hepatogastroenterology.

⁸Department of Medicine, Faculty of Clinical Sciences, Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria.

⁹Department of Gastroenterology, Hepatology and Endemic Medicine, Faculty of Medicine, Minia University, Minia, Egypt

¹⁰Aminu Kano Teaching Hospital, Kano and Bayero University, Kano, Nigeria.

¹¹Aga Khan Hospital, Dar Es Salaam, Tanzania, Vice president of the Tanzanian Society of Gastroenterology.

¹² Department of Gastroenterology, University of Witwatersr, Chris Hani Baraguanath Academic Hospital, Johansberg, South Africa.

¹³Tropical Medicine Department, Faculty of Medicine, Ain Shams University, Egypt, president of the African Middle East Gastroenterology Association (AMAGE).

Corresponding author

Reda Elwakil MD

Emeritus Professor of Tropical Medicine, Ain Shams University

President of the African Middle East Gastroenterology Association (AMAGE)

12 Botros Ghaly st.11341, Cairo,Egypt

Mobile: +201227461126

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To editor,

We read with great interest the landmark consensus for the redefinition of fatty liver disease by *Eslam et al.* This includes a shift in nomenclature from non-alcoholic fatty liver disease (NAFLD) to metabolic associated fatty liver disease (MAFLD) as more apt term and adopting a set of simple and pertinent “positive” criteria to diagnose the disease, independent of alcohol intake or other liver diseases [1-2]. These twin proposals provide a major advance the conceptualisation of fatty liver diseases, but given the variation between different health systems, reaching a consensus including from low-resources regions of different health systems is imperative.

Sub-Saharan Africa (SSA) has more than half of the Earth's arable land, of which <10% is currently cultivated. The region is a home for 13% of the global population in 2017 (over one billion population) and it is forecasted to account for 35% of the global population by 2100. SSA is confronted with high disease burden accounting for around 24% of the global disease burden. Although, the burden of disease in this region continues to be dominated by infectious diseases, countries in this region are undergoing a demographic transition characterised by industrialization and urbanization leading to increasing prevalence of noncommunicable diseases (NCDs) [3]. The burden of NCDs in SSA regions is higher than the global average and it is projected that by 2020, NCDs will account for 27% of mortality in this region [3]. Adults in these regions face twice the risk of NCD mortality than their counterparts living in high-income countries [4].

Fatty liver disease associated with metabolic dysfunction has emerged as an important NCD in SSA and available data suggest that this region has one of the fastest growing burden worldwide. The prevalence of NAFLD in Africa was estimated to be about 13% [5], although apparently there is underestimation partly due to an under diagnoses and under recording.

Cirrhosis-related deaths doubled in SSA between 1980 and 2010, and the underlying aetiology of cirrhosis was unknown in 31% of cases [6]. Similarly, 10% of the underlying aetiology for hepatocellular carcinoma in Africa was unknown [6], suggesting potentially a major contributing role of NAFLD.

Management of NAFLD in SSA faces unique challenges in contrast to high-income countries, where these life-style changes occurred over several decades, allowing health systems to adapt. The changes in sub-Saharan African countries are occurring abruptly and involving massive populations that have rapidly outstripped health care systems, which are already fragile, fragmented, under-resourced, and limited in terms of infrastructure and capacity to be able to cope [3]. Hence, SSA countries do not have the option to simply copy the protocols that have emerged in high-income countries and examining the existing NAFLD guidelines through the contextualisation lens reveals gaps between policy and implementation.

To reach to a consensus, the African Middle East Association of Gastroenterology (AMAGE) invited leading members of SSA countries to come to a consensus on this proposal from a local perspective, through a Delphi process. Participating experts have uniformly decided to endorse “MAFLD” as the official term to describe fatty liver disease associated with metabolic dysfunction and be diagnosed by the proposed positive criteria (supported by 100% of participants). We also recommended abandoning the term non-alcoholic steatohepatitis “NASH” and that the single term MAFLD be used, recognising a disease continuum that is dependent on grade of activity and stage of fibrosis.

Why does the SSA experts endorse the novel definition of fatty liver disease?

Besides, the consensus reached through the Delphi method displaying a clear support to the MAFLD proposal, from a national perspective, the panel of experts recognized plenty of multiscale advantages that are at play in adopting the MAFLD framework, which includes:

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Value the evidence

To date and in a quite short time since introduction of the MAFLD concept, all the available studies have consistently reached the conclusion that the diagnostic criteria for MAFLD are simple, practical, and superior to the existing NAFLD criteria for identifying high-risk patients with severe liver injury, cardiovascular diseases, and chronic kidney diseases [7].

Placing proof in pragmatism

SSA countries bear a huge, disproportionate, and growing burden of risk factors for MAFLD, which constitutes a threat to development. Efforts to tackle the global burden of MAFLD may need region-specific fine-tuning measures addressing the challenge of scarce resources. The obvious ease of implementing the diagnostic criteria of MAFLD compared to the challenging criteria of the old diagnosis of NAFLD is promising in this context. The basic metabolic panel, like that included in the diagnostic criteria for MAFLD is one of the top ordered laboratory tests by volume in various countries. In addition, most countries in our region had few laboratories accredited to international quality standards, which are available only in large urban centres that could be able to undertake the required exhaustive list of ruling out test required to diagnose NAFLD [7,8]. Indicating that adopting MAFLD criteria presents a unique opportunity to bridge these gaps and combat MAFLD despite our limited resources.

Turning challenges into moments of opportunity

The redefinition of fatty liver disease associated with metabolic dysfunction present a unique opportunity in turning challenges into moments of opportunity at multiscale levels, including the impact on perception of MAFLD, engaging stakeholders in the management of MAFLD and rectifying the funding deficit for MAFLD. Increasing awareness and rectifying

the funding deficit of NAFLD is partly challenged by a problem of language [8]. This is not the case for more defined areas of health, such as HIV/AIDS or diabetes. One regional lesson from HIV/AIDS that may be useful for MAFLD is to involve local communities actively during national scale up programmes [9]. The inability to understand the concept of risk of NAFLD and the negative language by having the prefix “non” is not implying the sense of importance [8]. The clarity of language of MAFLD offer a useful avenue to communicate MAFLD risk and motivates metabolic-healthy lifestyle changes. Various studies in other diseases have shown the positive implications of changing disease names on improving the lay perception and beliefs about management and health outcomes [10].

Enhancing management of multimorbidity in low-income context

Multimorbidity is a growing concern in SSA countries [11]. In contrast to the previous criteria of NAFLD that solely relied on exclusion of other liver diseases, the positive criteria for MAFLD are helping in embracing the demands of the dual burdens of liver diseases, and create multi-sectoral, integrated approach to health care that accounts for all diseases appears to be the way forward, particular with the significant burden of HIV in the region. This change would also represent the pillar for establishing HIV metabolic clinic which is currently in need in many countries in the region. This will also be an opportunity for the encourage physicians to evaluate the hepatic manifestation of metabolic disorders for a better outcome and importantly include the management of MAFLD in the various NCD guidance documents.

Strengthening primary health-care systems

One of the major problems with NAFLD care that is primarily hospital-centered and tends to be concentrated in large urban hospitals [12]. This dire situation is aggravated by an extreme shortage of specialist in these centers [13] also cause problems for referrals and

counter-referrals, which in turn leads to undiagnosed and untreated diseases. In addition, in 2019, the World Health Organization estimates that out-of-pocket expenditure exceeded 40% of total health expenditure in low-income countries, mainly in SSA. Hence, it is not surprising that studies have shown a high prevalence of undiagnosed NAFLD in real life, even among high-income countries [14]. Therefore, decentralized driven health care is needed to ensure more efficient and effective health care delivery at all levels in SSA, especially in rural communities. A simple care system based on simple diagnostic criteria protocol and education, with occasional support from hospital-based clinicians for other diseases have been developed and tested in SSA, which has been shown to improve population health outcomes and reduce all-cause mortality and is a cost-effective strategy for achieving universal health coverage [15]. Hence, the simplified MAFLD diagnostic criteria would likely lead to same outcomes.

In conclusion, the SSA experts enthusiastically endorse the MAFLD proposal. In concert with our work, experts from the Asian Pacific Association for the Study of the Liver (APASL), the Latin American Association for the Study of the Liver (ALEH), and Middle East and North Africa [16-18] previously endorsed the same proposal, indicating that a broad consensus is emerging.

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