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## 亚洲地区代谢相关脂肪性肝病流行情况

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**摘要:** 代谢相关脂肪性肝病(MAFLD)作为全球常见慢性肝病,其全球患病率达30.1%,且呈持续上升趋势,其中拉丁美洲(44.4%)和亚洲地区的增长尤为显著,2010—2021年东亚地区增幅达16.6%。亚洲各地区之间MAFLD患病率亦存在明显地域差异:中国体检数据显示,肝脂肪变总体检出率为44.4%,其中华北地区(53.5%)显著高于华南地区(34.2%);而日本与伊朗的患病率分别为22.3%和38.1%。该疾病与代谢异常存在密切关联,全球范围内65%的糖尿病患者合并MAFLD(亚太地区为53.2%),超重亚洲人群(BMI $\geq$ 23 kg/m<sup>2</sup>)MAFLD的患病率达47.7%~63.4%,但非肥胖人群中仍有19.2%患病率(印度高达47.7%)。新诊断标准基于肝脂肪变+代谢异常组合,对慢性乙型肝炎高发的亚洲地区具有特殊意义,二者共存可能加速肝癌进展。亚洲地区正面临非肥胖型MAFLD比例高、至2030年MAFLD相关肝硬化并发症及肝癌死亡率将翻倍等独特挑战,虽然当前指南已推荐FIB-4分步筛查策略,但仍需提升基层医疗执行力和公众健康认知,亟需制订符合亚洲人群特征的早期干预方案,以应对这一重大公共卫生危机。

**关键词:** 代谢相关脂肪性肝病; 亚洲; 流行病学

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### The prevalence of metabolic dysfunction-associated fatty liver disease in Asia

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**Abstract:** Metabolic dysfunction-associated fatty liver disease (MAFLD) is a common chronic liver disease worldwide, with a global prevalence rate of 30.1%, and there is a tendency of increase in the prevalence rate of MAFLD, with a significant increase in Latin America (44.4%) and Asia, where the prevalence rate of MAFLD was increased by 16.6% from 2010 to 2021. There are notable regional differences within Asia. The Chinese physical examination data show that the overall detection rate of hepatic steatosis is 44.4%, and the detection rate in North China (53.5%) is significantly higher than that in South China (34.2%); the prevalence rate is 22.3% in Japan and 38.1% in Iran. This disease is closely associated with metabolic disorder. Globally, 65% of diabetic patients have MAFLD (53.2% in the Asia-Pacific region), and the prevalence rate of MAFLD in overweight Asian populations (BMI  $\geq$  23 kg/m<sup>2</sup>) reaches 47.7% to 63.4%, even with a prevalence rate of 19.2% (up to 47.7% in India) in non-obese individuals. The new diagnostic criteria are developed based on the combination of hepatic steatosis and metabolic disorder and are of particular significance in Asia with a high prevalence rate of chronic hepatitis B, and the coexistence of the two may accelerate the progression of liver cancer. Asia is facing unique challenges such as a high proportion of patients with non-obese MAFLD and doubling of the incidence rates of liver cirrhosis complications and the mortality rates of liver cancer in 2030. Although current

guidelines recommend a stepwise screening strategy using FIB-4, there is still a need to enhance the implementation of primary care and the health awareness among the public and develop early intervention regimens tailored to the features of the Asian population, in order to address this major public health crisis.

**Key words:** Metabolic Dysfunction-associated Fatty Liver Disease; Asia; Epidemiology

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代谢相关脂肪性肝病 (metabolic dysfunction-associated fatty liver disease, MAFLD)是目前全球范围内常见的慢性肝病<sup>[1]</sup>。亚洲地区多项重要研究揭示了该病流行病学特征的演变趋势,为政策制定者和医疗专业人员应对这一新兴疾病提供了重要参考。

2023年, Younossi等<sup>[2]</sup>发布关于成人MAFLD全球流行病学的系统综述和荟萃分析数据,该研究纳入1990—2019年92项、涵盖900余万人的研究结果,估算全球MAFLD患病率为30.1%;按时期分层的数据显示,患病率从1990—2006年的25.3%持续升至2016—2019年的38.2%;在区域分布上,拉丁美洲(44.4%)及北非中东地区(36.6%)患病率最高,亚太地区为28.0%,其中东南亚、东亚、南亚分别为33.1%、29.7%、33.8%,与北美澳大拉西亚(31.2%)及西欧(25.1%)水平接近。

郑明华教授领衔的全球研究团队基于全球疾病负担数据的分析显示,2010—2021年全球MAFLD患病率增幅为11.2%<sup>[3]</sup>,其中东亚(16.6%)和南亚(12.0%)增幅最为显著,远超全球其他地区(2.1%~7.2%)。但需注意,受社区诊断不足和方法学差异影响,该研究可能会低估实际患病率(全球估值仅为15.0%)。

地区数据虽能提供流行病学概况,但各国差异显著。一项涵盖1300万亚洲人群的系统综述显示,MAFLD患病率从日本的22.28%到伊朗的38.07%不等(图1)<sup>[4]</sup>。我国570万份体检数据显示,超声衰减参数 $\geq 244$  dB/m提示肝脂肪变的检出率为44.4%,其中华北地区(53.5%)和东北地区(51.9%)最高,华南地区最低(34.2%)。除东北地区以外,男性群体、肥胖人群,以及患有糖尿病、高血压、血脂异常或具备至少2项代谢综合征组分的人群中,MAFLD患病率显著提升,且晚期肝纤维化的分布趋势与MAFLD高度一致<sup>[5]</sup>。目前,国内仍缺乏详尽的区域性数据,且鉴于MAFLD流行病学特征正处于快速演变阶段,有必要开展更多调查研究,持续追踪其流行趋势的演变轨迹。

MAFLD与心血管代谢风险因素密切相关<sup>[6]</sup>。现行诊断标准要求同时存在肝脂肪变和以下任意1项:2型糖尿病、超重/肥胖或2项其他代谢异常<sup>[7-8]</sup>。虽理论上部分非酒精性脂肪肝患者可能并不满足代谢条件,但流行病学研究证实,其对患病率评估影响甚微<sup>[9-10]</sup>。

2型糖尿病对MAFLD进展的影响较为显著。最新荟萃分析显示,约65%的糖尿病患者合并MAFLD<sup>[11-12]</sup>,其中31.6%为代谢相关脂肪性肝炎(metabolic dysfunction-

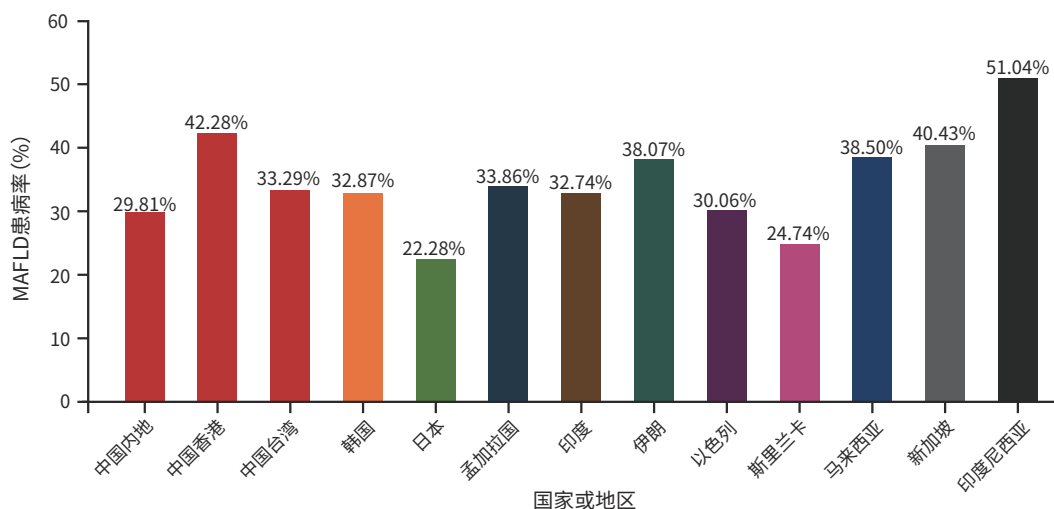


图1 MAFLD在亚洲地区的患病率

Figure 1 Prevalence of metabolism-related fatty liver disease in Asia

associated steatohepatitis, MASH), 15.0% 存在进展性纤维化。在区域分布上,中东地区患病率最高(71.2%),亚太地区最低(53.2%)<sup>[13]</sup>。同时,糖尿病发病年龄早、病程长与不良肝脏结局显著相关<sup>[13-14]</sup>。亚洲研究团队已证实,振动控制瞬时弹性成像等无创技术可有效筛查糖尿病患者的肝纤维化<sup>[15-17]</sup>。

肥胖是 MAFLD 的另一项重要危险因素。鉴于亚洲人群更易在较低 BMI 水平出现内脏肥胖,相关研究通常以 BMI $\geq$ 23 kg/m<sup>2</sup> 定义超重,其他地区研究对肥胖的界定标准则在 25~28 kg/m<sup>2</sup><sup>[18]</sup>。一项涵盖 151 项研究的荟萃分析显示,超重和肥胖人群的 MAFLD 患病率分别为 70.0% 和 75.3%<sup>[19]</sup>。亚洲数据显示,韩国(47.7%)、中国(60.3%)和日本(63.4%)的超重人群患病率差异显著。须注意,约 19.2% 的非肥胖人群也会患病,从马来西亚的 12.9% 到印度的 47.7% 不等<sup>[20]</sup>。

MAFLD 发病率数据相对匮乏,且受检测方法影响较大。一项采用质子磁共振波谱作为 MAFLD 诊断金标准的研究数据显示,中国香港地区 MAFLD 年发病率为 3.4%<sup>[21]</sup>; Younossi 等<sup>[2]</sup> 的系统综述显示,亚洲国家 MAFLD 年发病率从日本的 27.0/1 000 人年至斯里兰卡的 79.3/1 000 人年不等。

MAFLD 新诊断标准基于阳性指标(肝脂肪变+代谢异常)<sup>[7-8]</sup>,不再要求排除其他肝病,这对慢性乙型肝炎高发的亚洲地区尤为重要。HBV 感染可能降低 MAFLD 患病风险<sup>[22]</sup>,但二者共存时肝癌风险显著增加<sup>[23]</sup>。虽然糖尿病和肥胖是肝癌的主要驱动因素<sup>[24-25]</sup>,但脂肪变的具体作用尚不明确。

目前,MAFLD 已成为欧美国家肝移植的第二大适应证,亚洲尚未出现相同趋势。这种东西方差异可能与代谢性疾病病程长短相关——亚洲儿童肥胖现象出现较晚,患者病程相对较短。但模型预测显示,2015—2030 年亚洲地区的 MAFLD 相关肝硬化并发症、肝癌和死亡率将至少翻倍<sup>[26-27]</sup>。日本数据表明,非病毒性肝炎相关肝癌占比已从 1991 年的 10% 升至 2015 年的 32.5%<sup>[28]</sup>,这一趋势值得警惕。

现行指南已针对 MAFLD 及晚期肝纤维化高危人群的筛查提出建议<sup>[8,29-32]</sup>。鉴于多数高危人群就诊于基层医疗机构,需综合考量检测可及性与实施可行性。因此,指南主要推荐采用纤维化-4 指数(FIB-4)等简易指标作为一线评估手段,仅当 FIB-4 结果不确定时,才建议进行增强肝纤维化评分、振动控制瞬时弹性成像或磁共振弹性成像等二线检测。振动控制瞬时弹性成像预后研

究证实,这种分步筛查策略在预测肝失代偿和肝细胞癌风险方面,与全面开展二线检测具有同等效力<sup>[33]</sup>。需注意,该临床路径的有效实施须以医患双方对 MAFLD 的充分认知及检测意愿为前提。随机对照试验表明,通过自动化 FIB-4 检测并主动提示 2 型糖尿病患者的异常结果,可有效提升转诊及二线检测率,但仍有部分 FIB-4 异常者未得到临床跟进<sup>[17]</sup>。未来应采取更多必要措施,以提升病例识别率。

综上所述,MAFLD 在亚洲地区的流行趋势日益严峻,其患病率与西方国家的差距正在迅速缩小。随着亚洲地区肥胖和糖尿病等代谢性危险因素的持续增加,MAFLD 相关肝病负担预计将进一步加重。尤其需要注意,MAFLD 与慢性乙型肝炎共病可能加速肝癌进展,而亚洲地区非肥胖型 MAFLD 比例较高的特点,导致疾病管理的复杂性增加。未来亟需制订基于亚洲人群特征的早期筛查策略和精准干预方案,以应对这一重大公共卫生挑战。同时,加强公众健康教育、推动健康生活方式,对于遏制 MAFLD 的流行趋势具有深远意义。

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