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Opinion

Overview of Fatty Liver Disease

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Abstract

Fatty Liver Disease refers to the abnormal accumulation of fat in the liver cells. When this occurs without significant alcohol intake, it is termed Non-alcoholic Fatty Liver Disease (NAFLD) — recently reclassified as Metabolic dysfunction-associated steatotic liver disease (MASLD) in international consensus to emphasize its metabolic roots. NAFLD/MASLD ranges from simple steatosis to non-alcoholic steatohepatitis (NASH), which may progress to fibrosis, cirrhosis and hepatocellular carcinoma. The condition is closely linked to metabolic syndrome components including obesity, insulin resistance, and dyslipidaemia. Globally, NAFLD has become the most common chronic liver disease, influencing health outcomes and healthcare systems across high- and low-income countries alike due to lifestyle changes, sedentary behaviour and rising prevalence of diabetes and obesity. Early detection and lifestyle intervention are crucial, as progression can lead to irreversible liver damage and increased cardiometabolic risk.

Keywords: Fatty Liver Disease; Non-alcoholic Fatty Liver Disease (NAFLD); MASLD; Metabolic Dysfunction; Steatosis; Cirrhosis; Metabolic Syndrome; Obesity; Diabetes

Global Scenario

- **Prevalence:** NAFLD affects an estimated about 25% of the global population, making it the most common chronic liver disease worldwide.
- **Disease Spectrum**: Simple steatosis may remain benign, but a subset progresses to NASH — characterized by inflammation — which increases the risk of fibrosis, cirrhosis and liver cancer.
- **Risk Factors:** The disease is strongly associated with obesity, metabolic syndrome (insulin resistance, type-2 diabetes), dyslipidaemia and central adiposity.
- **Evolving Terminology:** Recent medical consensus prefers the term MASLD to reflect metabolic dysfunction as the primary driver rather than alcohol or other liver insults.
- **Global Burden**: With ageing populations, increases in sedentary lifestyles, and high calorie diets, NAFLD is predicted to affect up to one-third of adults in many regions by 2030 [1].

Indian scenario

- **Prevalence in India**: Meta-analyses indicate NAFLD prevalence in India is high — around 16%–32% in the general population [2].
- **Pooled Findings:** A comprehensive systematic review found that roughly 38.6% of adults and 35.4% of children screened in multiple studies had NAFLD, with higher rates observed in those with obesity [3].

- **Risk Distribution**: Prevalence varies by region and setting — urban rates are generally higher than rural, while individuals with obesity, diabetes and metabolic syndrome have much greater prevalence [4].
- **Silent Nature and Detection**: NAFLD often remains asymptomatic until advanced stages. Many individuals with fatty liver are unaware of their condition until routine imaging or liver function tests detect abnormalities [5].
- **Emerging Public Health Concern:** Data from surveys and healthcare reports indicate NAFLD as a rapidly emerging public health issue in India, paralleling rising obesity and diabetes rates.

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