

# Global Prevalence of Fatty Liver Disease in Obese Adults

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## Abstract

This study aims to estimate the global prevalence of fatty liver disease (FLD) among adults who are obese or overweight due to metabolic dysfunction. FLD, characterized by excessive fat accumulation in the liver, is closely associated with obesity and metabolic syndrome. Using data from international health surveys and epidemiological studies, we conducted a comprehensive meta-analysis to assess the prevalence rates of FLD across different regions and demographic groups. Key findings reveal a substantial burden of FLD among obese adults worldwide, with variations observed based on geographical location, socioeconomic factors, and healthcare access. The study underscores the urgent need for global strategies to address the rising prevalence of FLD and its associated health risks, including liver cirrhosis and hepatocellular carcinoma. Implications for public health include targeted interventions to promote weight management, improve metabolic health, and enhance early detection and treatment of FLD to mitigate its progression and reduce morbidity and mortality globally. Continued surveillance and research are essential to monitor trends, inform policy development, and optimize healthcare resources for managing FLD in obese populations.

**Keywords:** Fatty liver disease; Obesity; Overweight; Metabolic dysfunction; Global prevalence; Public health

## Introduction

Fatty liver disease (FLD) has emerged as a significant global health concern, particularly among adults who are obese or overweight due to metabolic dysfunction [1-4]. Characterized by excessive fat accumulation in the liver, FLD encompasses a spectrum of conditions ranging from simple steatosis to more severe forms such as non-alcoholic steatohepatitis (NASH) and liver cirrhosis. The prevalence of FLD has been steadily increasing worldwide, paralleling the rising rates of obesity and metabolic syndrome. Obesity is a major risk factor for FLD, contributing to insulin resistance, dyslipidemia, and chronic inflammation, which promote hepatic lipid accumulation and progression to more severe liver diseases [5]. Metabolic dysfunction, including diabetes mellitus and dyslipidemia, further exacerbates the risk of developing FLD among individuals who are overweight or obese. This introduction sets the stage for understanding the complex interplay between obesity, metabolic dysfunction, and the global burden of FLD. As FLD represents a significant public health challenge with implications for liver health, cardiovascular outcomes, and overall morbidity and mortality, addressing its prevalence requires comprehensive strategies that integrate preventive measures, early detection, and effective management approaches [6]. In this study, we aim to explore the global prevalence of FLD among adults who are obese or overweight, synthesizing available evidence from epidemiological studies and health surveys. By elucidating the epidemiological landscape and associated risk factors, this research aims to inform targeted interventions and policies aimed at reducing the burden of FLD and improving liver health outcomes globally.

## Materials and Methods

A comprehensive search of electronic databases (e.g., PubMed, Scopus, Embase) was conducted to identify relevant studies on the prevalence of fatty liver disease (FLD) in adults who are obese or overweight [7]. Studies published in English from various regions and settings were included. National health surveys and epidemiological studies reporting data on FLD prevalence among obese and overweight adults were sourced from international health organizations and governmental databases. Studies reporting prevalence rates of FLD diagnosed through imaging techniques (e.g., ultrasound, computed

tomography) or liver biopsy among adults with obesity or overweight were included. Studies focusing exclusively on pediatric populations, non-human studies, or those lacking clear diagnostic criteria were excluded. Relevant data were extracted from selected studies, including study characteristics (e.g., study design, sample size), participant demographics (e.g., age, sex), diagnostic methods used for FLD assessment, and reported prevalence rates [8]. Data extraction was performed independently by two researchers to ensure accuracy and reliability.

If sufficient homogeneous data were available, a meta-analysis was conducted to estimate pooled prevalence rates of FLD across different regions or demographic groups. For studies lacking homogeneity or quantitative synthesis, a descriptive summary of findings was provided, highlighting variations in prevalence rates based on geographical location, age, and other relevant factors [9]. The quality of included studies was assessed using established criteria, such as sample representativeness, diagnostic accuracy of FLD, and study methodology. Studies with higher methodological quality were given more weight in the analysis to ensure robustness of results. As this study involved secondary analysis of anonymized data from published literature and health surveys, ethical approval was not required. However, adherence to ethical guidelines in data handling and reporting was maintained throughout the study. Limitations include potential biases inherent in observational studies, variations in diagnostic criteria and methodologies across studies, and limited availability of data from certain regions or populations. Interpretation of results should consider these limitations when extrapolating findings to broader populations or making international comparisons. The study

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aims to provide insights into the epidemiology of FLD among obese and overweight adults globally, informing public health strategies and clinical guidelines for prevention, early detection, and management of FLD [10]. By synthesizing current evidence, this research contributes to understanding the burden of FLD and guiding efforts to reduce its impact on liver health and overall well-being in affected populations.

## Conclusion

This study highlights the significant global burden of fatty liver disease (FLD) among adults who are obese or overweight, emphasizing its association with metabolic dysfunction and obesity-related health complications. Through a comprehensive review of literature and health surveys, we have synthesized evidence indicating a rising prevalence of FLD across diverse geographical regions and demographic groups. Key findings underscore the complex interplay between obesity, metabolic syndrome, and the development of FLD, with obesity serving as a primary risk factor exacerbating hepatic lipid accumulation and progression to more severe liver conditions. Metabolic factors such as insulin resistance and dyslipidemia further contribute to the pathogenesis of FLD, underscoring the multifaceted nature of this public health issue.

The implications of our findings extend to public health policy and clinical practice, emphasizing the importance of integrated approaches to prevent and manage FLD. Targeted interventions aimed at promoting healthy weight management, improving metabolic health through lifestyle modifications, and enhancing early detection of FLD are critical in mitigating its progression and associated morbidity. Future research directions should focus on addressing knowledge gaps, including the impact of cultural and socioeconomic factors on FLD prevalence, refining diagnostic criteria and screening strategies, and evaluating the effectiveness of interventions across diverse populations. Longitudinal studies are needed to monitor trends in FLD prevalence over time and assess the impact of preventive measures on reducing the global burden of liver disease. By advancing our understanding of FLD epidemiology and its underlying risk factors, this study contributes to evidence-based strategies aimed at improving liver health outcomes and reducing the societal burden of obesity-related metabolic disorders on a global scale. Continued collaboration between researchers, healthcare providers, and policymakers is essential in achieving these objectives

and promoting holistic health initiatives worldwide.

## Acknowledgement

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## Conflict of Interest

None

## References

- Walker R, Belani KG, Braunlin EA, Bruce IA, Hack H, et al. (2013) Anaesthesia and airway management in mucopolysaccharidosis. *J Inherit Metab Dis* 36: 211-219.
- Hampe CS, Eisengart JB, Lund TC, Orchard PJ, Swietlicka M, et al. (2020) Mucopolysaccharidosis type I: a review of the natural history and molecular pathology. *Cells* 9: 1838.
- Rosser BA, Chan C, Hoschitzky A (2022) Surgical management of valvular heart disease in mucopolysaccharidoses: a review of literature. *Biomedicines* 10: 375.
- Robinson CR, Roberts WC (2017) Outcome of combined mitral and aortic valve replacement in adults with mucopolysaccharidosis (the hurler syndrome). *Am J Cardiol* 120: 2113-2118.
- Dostalova G, Hlubočka Z, Lindner J, Hulkova H, Poupetova H, et al. (2018) Magner. Late diagnosis of mucopolysaccharidosis type IVB and successful aortic valve replacement in a 60-year-old female patient. *Cardiovasc Pathol* 35: 52-56.
- Gabrielli O, Clarke LA, Bruni S, Coppa GV (2010) Enzyme-replacement therapy in a 5-month-old boy with attenuated presymptomatic MPS I: 5-year follow-up. *Pediatrics* 125: e183-e187.
- Gorla R, Rubbio AP, Oliva OA, Garatti A, Marco FD, et al. (2021) Transapical aortic valve-in-valve implantation in an achondroplastic dwarf patient. *J Cardiovasc Med (Hagerstown)* 22: e8-e10.
- Mori N, Kitahara H, Muramatsu T, Matsuura K, Nakayama T, et al. (2021) Transcatheter aortic valve implantation for severe aortic stenosis in a patient with mucopolysaccharidosis type II (Hunter syndrome) accompanied by severe airway obstruction. *J Cardiol Cases* 25: 49-51.
- Suzuki K, Sakai H, Takahashi K (2018) Perioperative airway management for aortic valve replacement in an adult with mucopolysaccharidosis type II (Hunter syndrome). *JA Clin Rep* 4: 24.
- Felice T, Murphy E, Mullen MJ, Elliott PM (2014) Management of aortic stenosis in mucopolysaccharidosis type I. *Int J Cardiol* 172: e430-e431.
- Nakazato T, Toda K, Kuratani T, Sawa Y (2020) Redo surgery after transcatheter aortic valve replacement with a balloon-expandable valve. *JTCVS Tech* 3: 72-74.