

## BODY MASS INDEX A BALANCED EVALUATION OF ITS ROLE IN HEALTH ASSESSMENT

Kuldasheva Makhliyo<sup>1</sup>, Jainil Sejpal<sup>2</sup>

1. Assistant of the Department of Public Health and Management.
2. Second Year Student at The Tashkent Medical Academy.
- 3.

**Introduction.** Obesity presents a significant challenge to global health and healthcare systems. Body Mass Index (BMI) is widely adopted as a standard tool for assessing and classifying overweight and obesity. Its appeal lies in its simplicity, accessibility, and ease of use across diverse populations and healthcare settings. Despite its broad application, BMI does not account for variations in muscle mass, fat distribution, age, or ethnicity, which can lead to misclassification in individual health assessments. Nevertheless, it remains an integral part of clinical practice and public health policies.

**Purpose of Research.** To evaluate the strengths and limitations of Body Mass Index (BMI) in assessing obesity and related health risks, and to compare its diagnostic and predictive value with alternative measures such as waist-to-height ratio and body fat percentage.

**Materials and Methods.** A focused literature review was conducted using platforms such as PubMed, Google Scholar, BMC Public Health, Springer, NEJM, MDPI, and Frontiers, targeting studies on BMI, its limitations, and comparisons with alternative metrics like WHtR, body fat percentage, and BIA. Over 20 relevant articles were reviewed, from which 12 key studies were selected based on relevance, quality, and insight into BMI's diagnostic strengths and shortcomings. This process ensured a balanced perspective, highlighting BMI's real-world value and its comparative performance in assessing obesity and health risk.

**Results of Research.** BMI remains a widely used and accessible screening tool, particularly effective in population-level assessments. It was found to correlate well with general obesity trends and treatment thresholds, such as in clinical trials. However, several studies showed BMI may misclassify individuals with high muscle mass or high body fat despite normal BMI. Alternative indicators like waist-to-height ratio and body fat percentage demonstrated higher sensitivity in identifying central adiposity and cardiometabolic risk.

**Conclusions.** BMI continues to be a valuable tool for obesity classification and health screening at the population level due to its practicality and cost-effectiveness. While it has notable limitations at the individual level, especially in assessing fat distribution and body composition, its use can be enhanced by combining it with complementary tools like waist-to-height ratio or body composition analysis for improved diagnostic accuracy.