

OBESITY : THE FUTURE PANDEMIC ??



DISSERTATION PRESENTATION
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OBESITY





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UNDERSTANDING OBESITY :

Obesity is a term derived from Latin word **Obesitas** meaning **Fatness** or **Corpulence**.

Obesity, one of the major public health concerns is a **preventable chronic disorder** involving inflammation of fat tissue and excessive malnutrition which leads to the hormonal imbalance and defective Immune system.

WHO defines Obesity as “abnormal or excessive fat accumulation that presents a risk to health”.

For adults, WHO defines overweight, and obesity as follows:

- overweight is a BMI greater than or equal to 25; and
- obesity is a BMI greater than or equal to 30



OBJECTIVES

1. To analyze trends in obesity rates and identify contributing factors.
2. To evaluate current and emerging strategies for obesity prevention and treatment

RESEARCH QUESTION

1. How have obesity rates evolved over time, and what patterns can be observed across different age groups, genders, and regions?
2. What are the biological, socio-economic, and cultural factors influencing obesity, and what are the most promising prevention and treatment options?

METHODOLOGY

Study Design - Descriptive

Type of Data - Secondary Data

Data Source - clinicaltrials.gov, EudraCT, google patents, google scholar, PubMed, published primary market research reports, company websites, FDA website, press releases, SEC filing, archived websites and other secondary sources including government websites, proprietary databases and non-proprietary databases

PURPOSE OF RESEARCH

The purpose of my research on "Obesity: The Next Pandemic" is to understand why obesity is becoming so common and how it affects our health. I want to look at the different **reasons people become obese**, like genetics, environment, and lifestyle choices, and see how obesity leads to health problems like heart disease, diabetes, and some cancers.

This research will also show how obesity impacts our economy and society, emphasizing the need to tackle this issue urgently.

Additionally, I will review current methods to prevent and treat obesity and suggest new, effective ways to help reduce this growing problem and encourage healthier living for everyone.

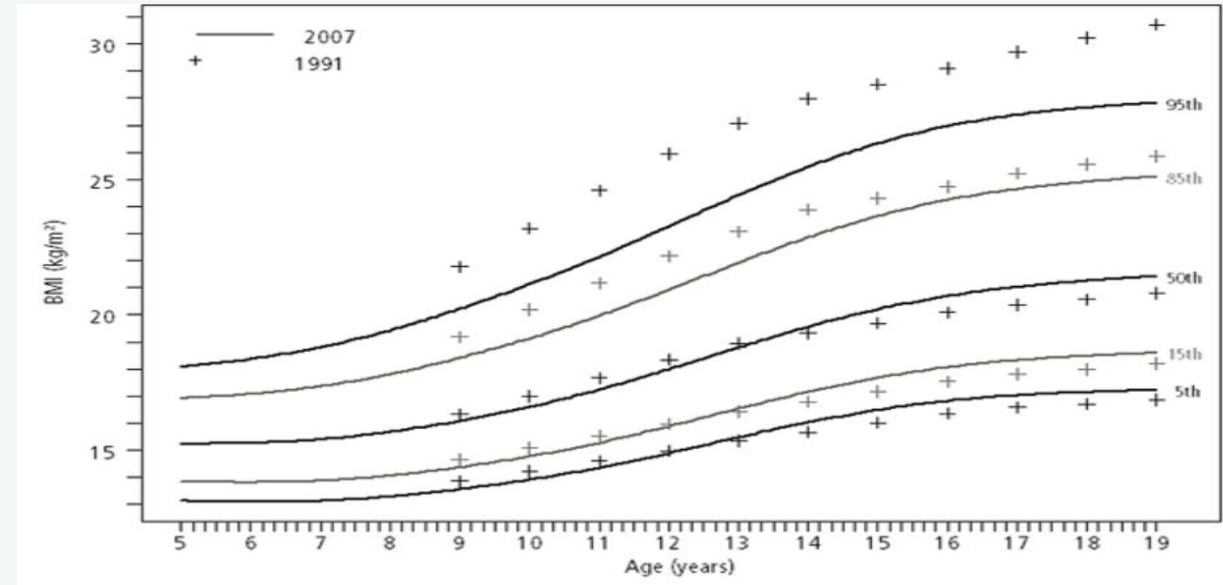
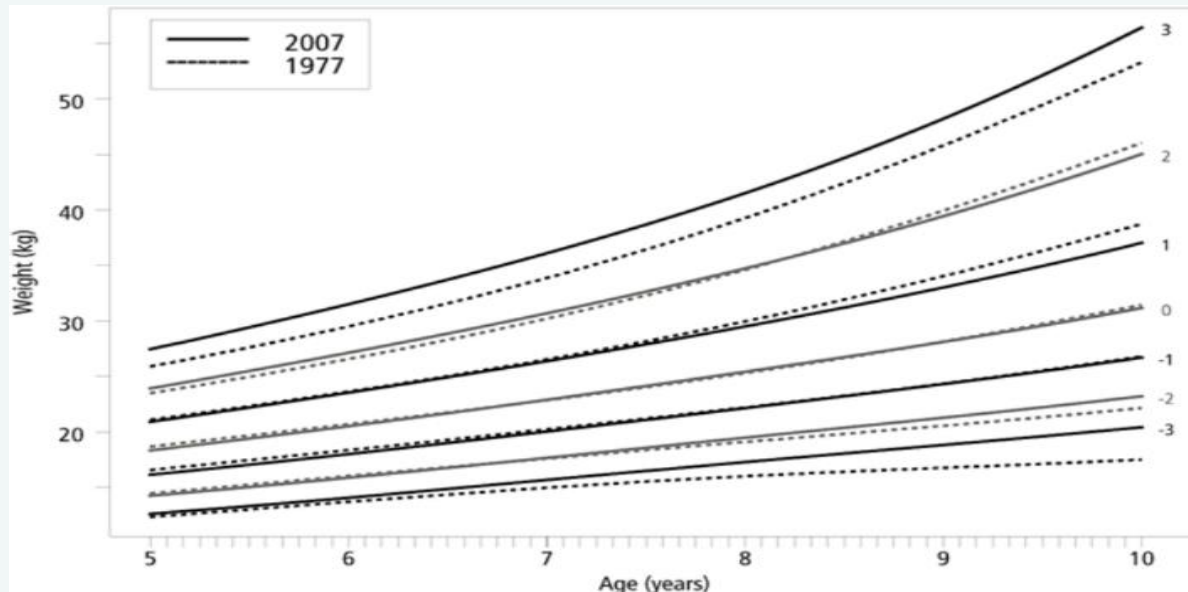
CHILDREN UNDER THE AGE OF 5:

For children under the age of 5 -

- Being overweight is when a person's BMI for that age exceeds the WHO Growth Reference median by more than 1 SD
- Obesity is when person's BMI for that age exceeds the WHO Growth Reference median by more than 2 SD

CHILDREN AGED BETWEEN 5-19 YEARS: For children aged 5-19 –

- Being overweight is when BMI for age that exceeds 1SD above the WHO Growth reference median
- Being Obese is when BMI for that age exceeds 2 SD above the WHO Growth Reference media



ROLE OF HORMONES IN OBESITY

GUT HORMONES

In humans, the gastrointestinal tract is the largest endocrine organ and represents a highly metabolically active system.

In recent years, we've learned that signals from the intestines are important for keeping our energy levels balanced.

Enteroendocrine cells in the intestines sense nutrients and control the release of hormones in the digestive system.

These hormones enter the bloodstream through the hepatic portal vein and affect brain neurons to regulate eating behaviour.

HORMONE	LOCALISATION	MEAL RELATED FLUCTUATION	EFFECT ON FOOD INTAKE
GHRELIN	Stomach	Preprandial rise	Orexigenic
MOTILIN	Small Intestine	Preprandial rise	Orexigenic
CHOLECYSTOKININ	Small Intestine	Postprandial rise	Anorexigenic
GLUCAGON LIKE PEPTIDE	Small Intestine	Postprandial rise	Anorexigenic
PEPTIDE YY	Colon	Postprandial rise	Anorexigenic

PATHOGENESIS OF FAT RELATED HEALTH PROBLEMS

- The consequences of obesity stem from two main factors:
- The accumulation of Adipose tissue mass

Pathogenesis of Health Problems Associated with Obesity



SYMPTOMS AND CAUSES OF OBESITY

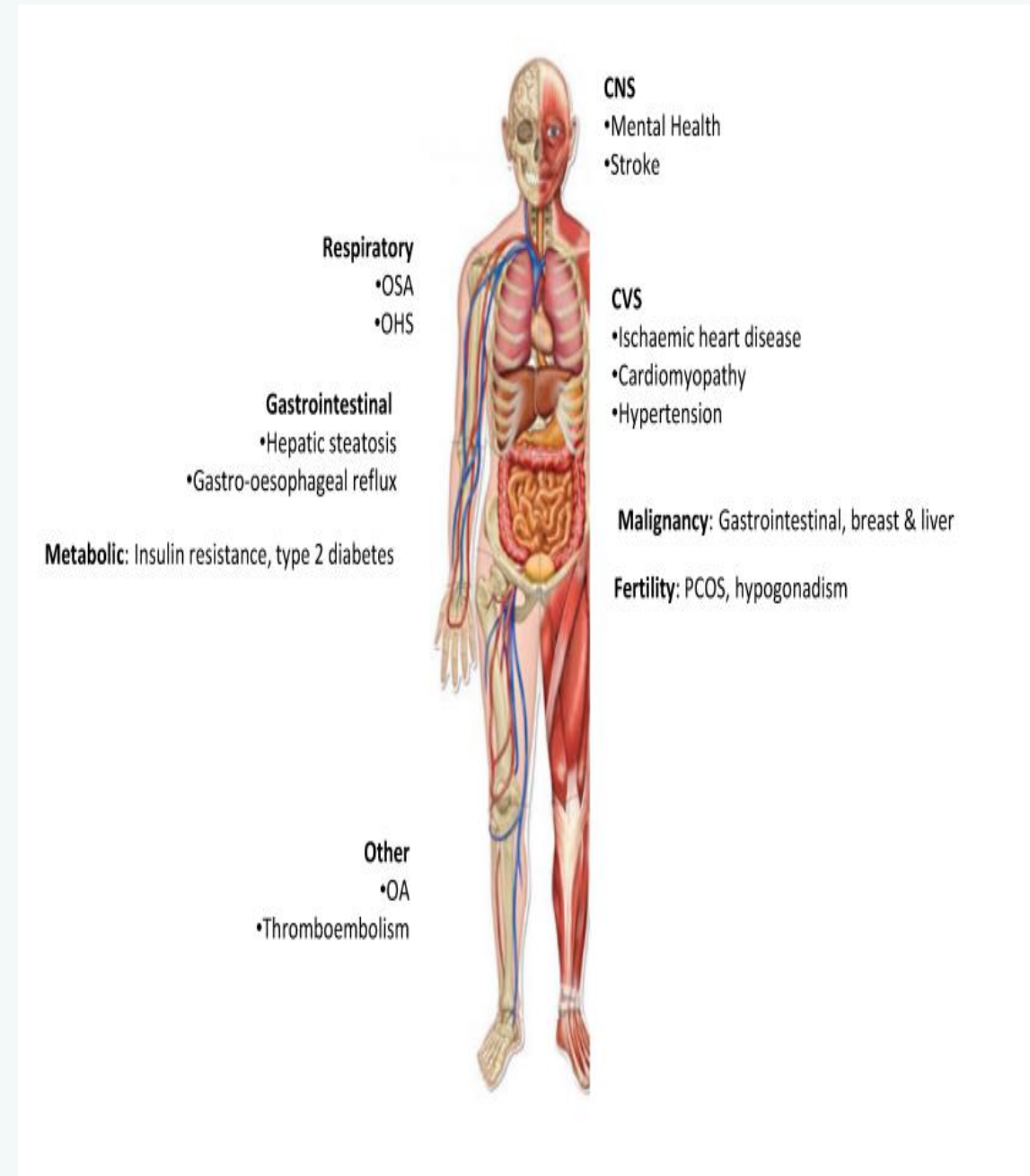


OBESITY AND NON-COMMUNICABLE DISEASES

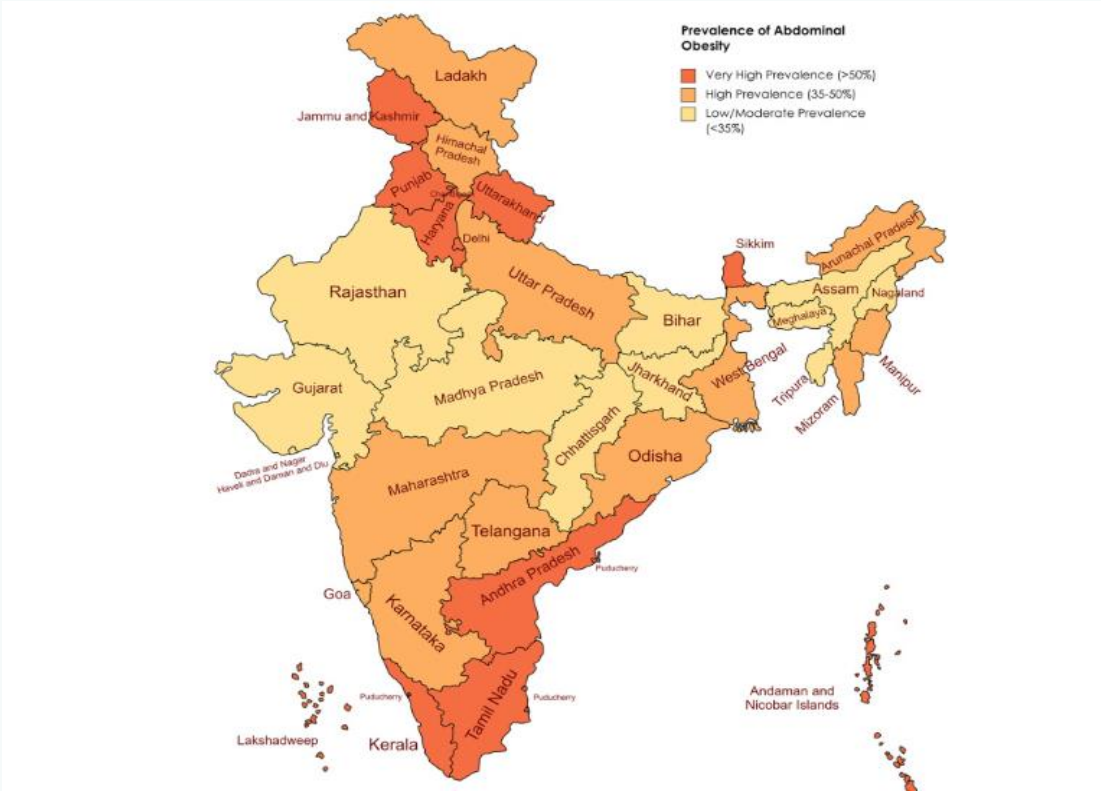
According to the 2024 Global Burden of Disease study (IHME, 2024) recent estimates indicate that over 56 million people die each year, and 2.5 billion years of healthy life are lost to disease or injuries or other causes of ill-health (DALYs, or disability-adjusted life-years).

Of these, some 42 million deaths and 1.6 billion DALYs are caused by non-communicable diseases (NCDs). Two-thirds of these NCD deaths and 40% of the NCD DALYs are caused by just four conditions: cancers (neoplasms), coronary heart disease, stroke and diabetes.

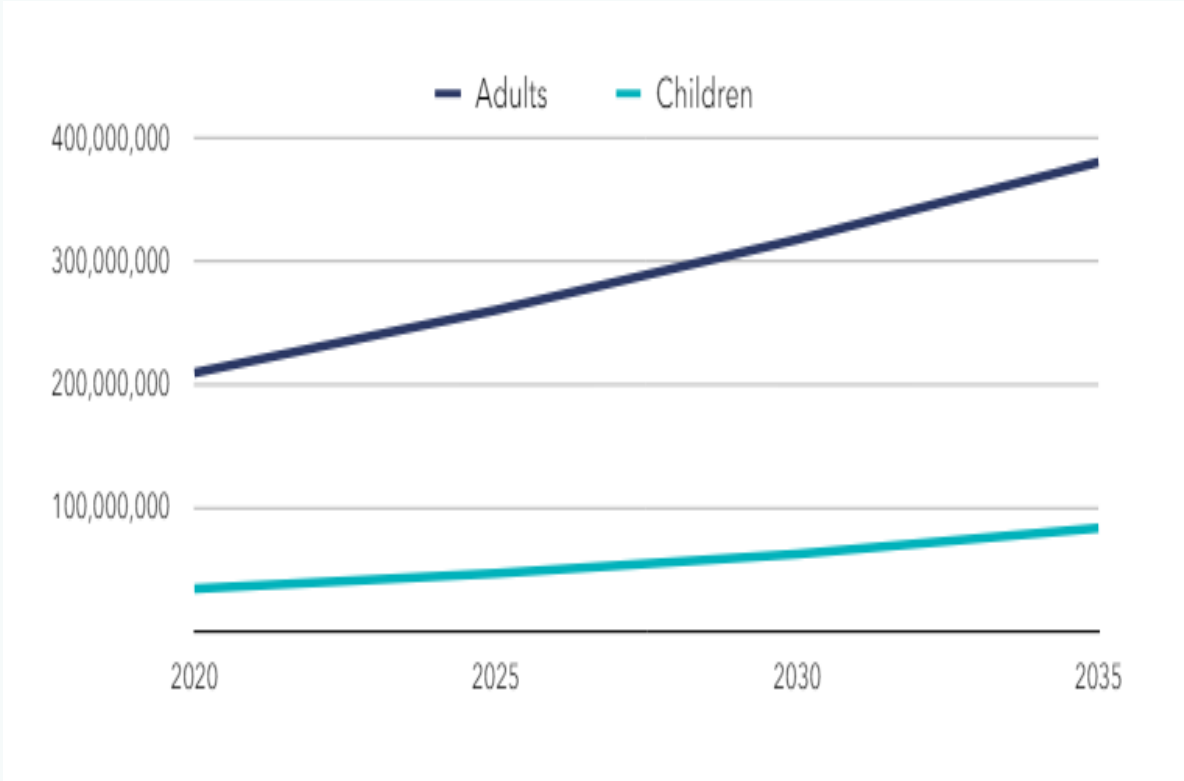
Each of these conditions is associated with, and accelerated by, overweight and obesity.



INDIA AND OBESITY



Source : NFHS 5



Projected numbers of adults and children with high Body Mass Index (BMI)

Global estimate (2020) and projected number of adults (2025-2035) with high BMI

	2020	2025	2030	2035
Adults with overweight (BMI ≥25 to 30 kg/m2)	1.39bn	1.52bn	1.65bn	1.77bn
Adults with obesity (BMI ≥30 kg/m2)	0.81bn	1.01bn	1.25bn	1.53bn
Adults with overweight or obesity as a proportion of all adults globally	42%	46%	50%	54%

Source : World Obesity Atlas, 2024

OBESITY MANAGEMENT STRATEGIES

- Diet induced weight loss
- Bypass surgery for hormone restoration
- Combination therapy

OBESITY AND PUBLIC HEALTH STRATEGIES

Preventive Measures	Early Intervention	Comprehensive Care
- Nutrition education - Physical activity programs - Healthy environment policies	- Screening and monitoring - Targeted interventions - Community-based initiatives	- Multidisciplinary treatment - Rehabilitation services - Long-term follow-up

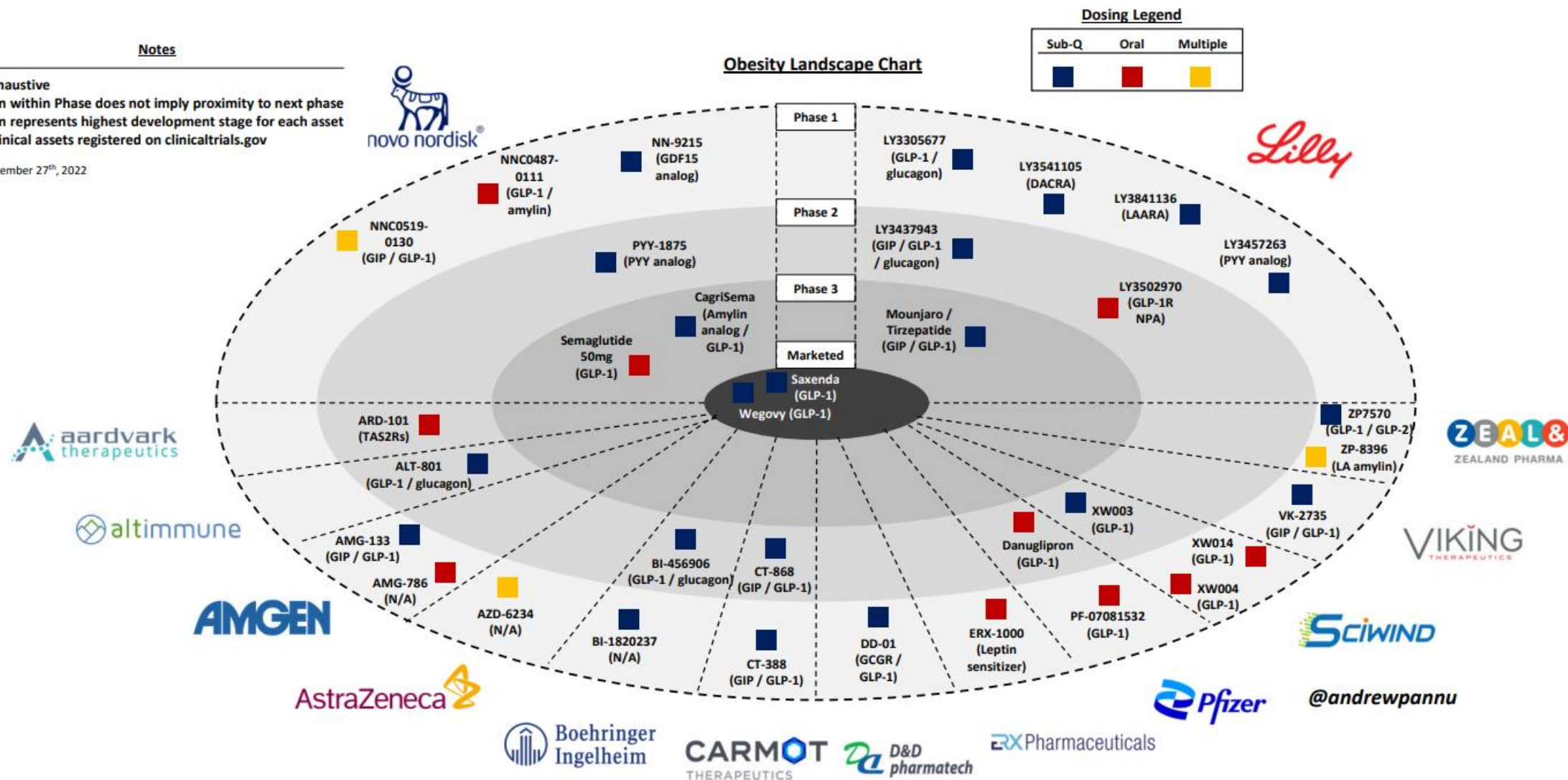
By implementing a multifaceted public health strategy that combines prevention, early intervention, and comprehensive care, we can effectively address the obesity pandemic and improve the overall health and well-being of populations worldwide.

COMPETITIVE LANDSCAPE OF OBESITY RELATED DRUGS

Notes

- Not Exhaustive
- Position within Phase does not imply proximity to next phase
- Position represents highest development stage for each asset
- Only clinical assets registered on clinicaltrials.gov

As of December 27th, 2022



ECONOMIC IMPACT OF OBESITY

Economic impact of overweight and obesity to surpass \$4 trillion by 2035

Global study predicts that more than half the global population will be living with overweight and obesity within 12 years if prevention, treatment and support do not improve.

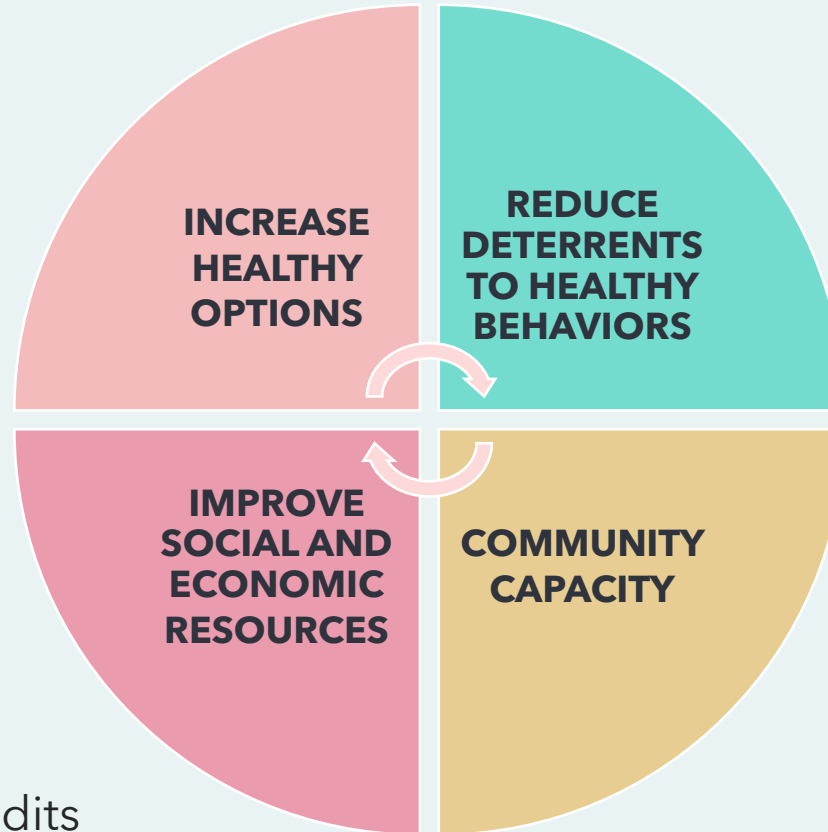
The World Obesity Atlas 2023, published by World Obesity Federation, predicts that the global economic impact of overweight and obesity will reach \$4.32 trillion annually by 2035 if prevention and treatment measures do not improve. At almost 3% of global GDP, this is comparable with the impact of COVID-19 in 2020.

The majority of the global population (51%, or over 4 billion people) will be living with either overweight or obesity by 2035 if current trends prevail. 1 in 4 people (nearly 2 billion) will have obesity.

OBESITY PREVENTION ACTION FRAMEWORK

- Food retail and provision
- Schools and worksites
- Built environment
- Parks and recreation
- Transport

- Anti-hunger programs
- Economic development
- Education and training
- Housing subsidies; tax credits



- Promotion of unhealthy products
- Higher costs of healthy
- Threats to personal safety
- Discrimination and social exclusion

- Empowered communities
- Strategic partnerships
- Behavior change knowledge and skills
- Promotion of healthy behaviors

SWOT ANALYSIS : Understanding the Landscape of Obesity



STRENGTHS

- Awareness and education programs
- Technological advancements in healthcare



WEAKNESS

- High costs of healthy foods,
- Limited access to healthcare
- Chronic Nature and Complexity
- Economic impact



OPPURTUNITIES

- Policy changes, Community-based programs
- Corporate and Community Engagement



THREATS

- Increasing fast-food consumption
- Sedentary lifestyle
- Resistance to Change

RECOMMENDATIONS

Multisectoral Collaboration

Bring together government, healthcare, education, and community stakeholders to develop and implement comprehensive obesity prevention and management programs.

Policy and Environmental Changes

Enact policies and create environments that support healthy eating, physical activity, and a reduction in sedentary behaviors.

Innovative Research and Solutions

Invest in research to better understand the complex drivers of obesity and develop innovative, evidence-based interventions.

Empowering Individuals and Families

Provide accessible education, tools, and resources to empower individuals and families to make healthier lifestyle choices.