



**Alum Mandisa**



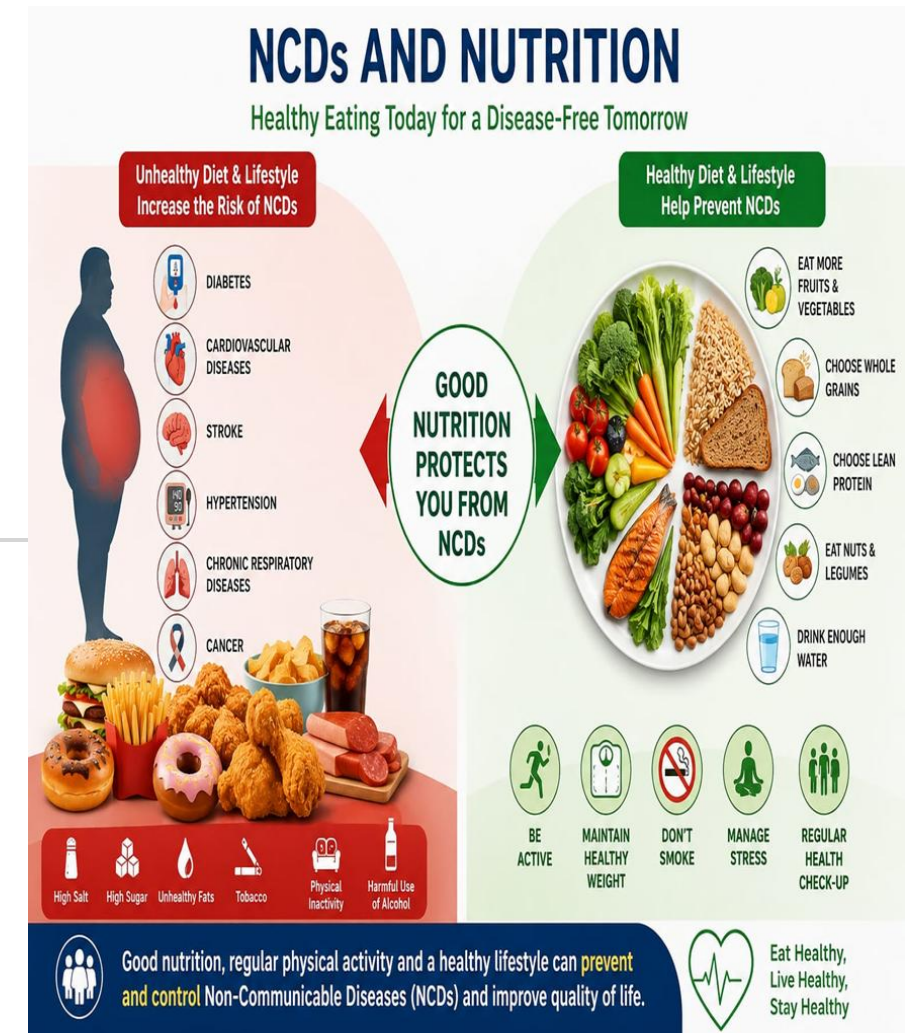
**Christian Eriksen**



**Humayun Ahmed**

# Nutrition & Non-Communicable Disease Prevention: A Public Health Perspective

**Dr. Farhana Karim**  
Assistant Professor  
Department of Community Medicine  
and Public Health

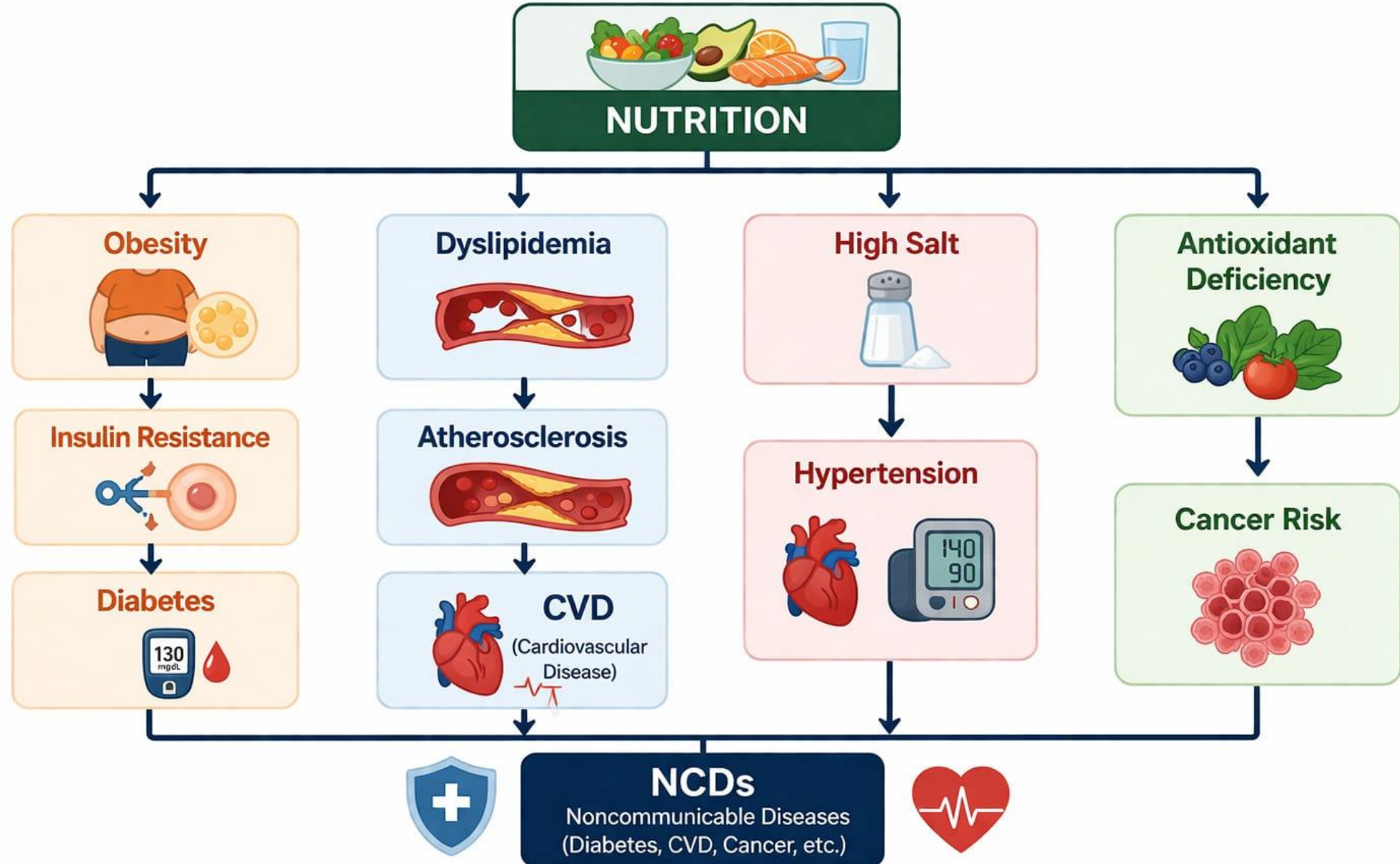


# Things to be Discussed

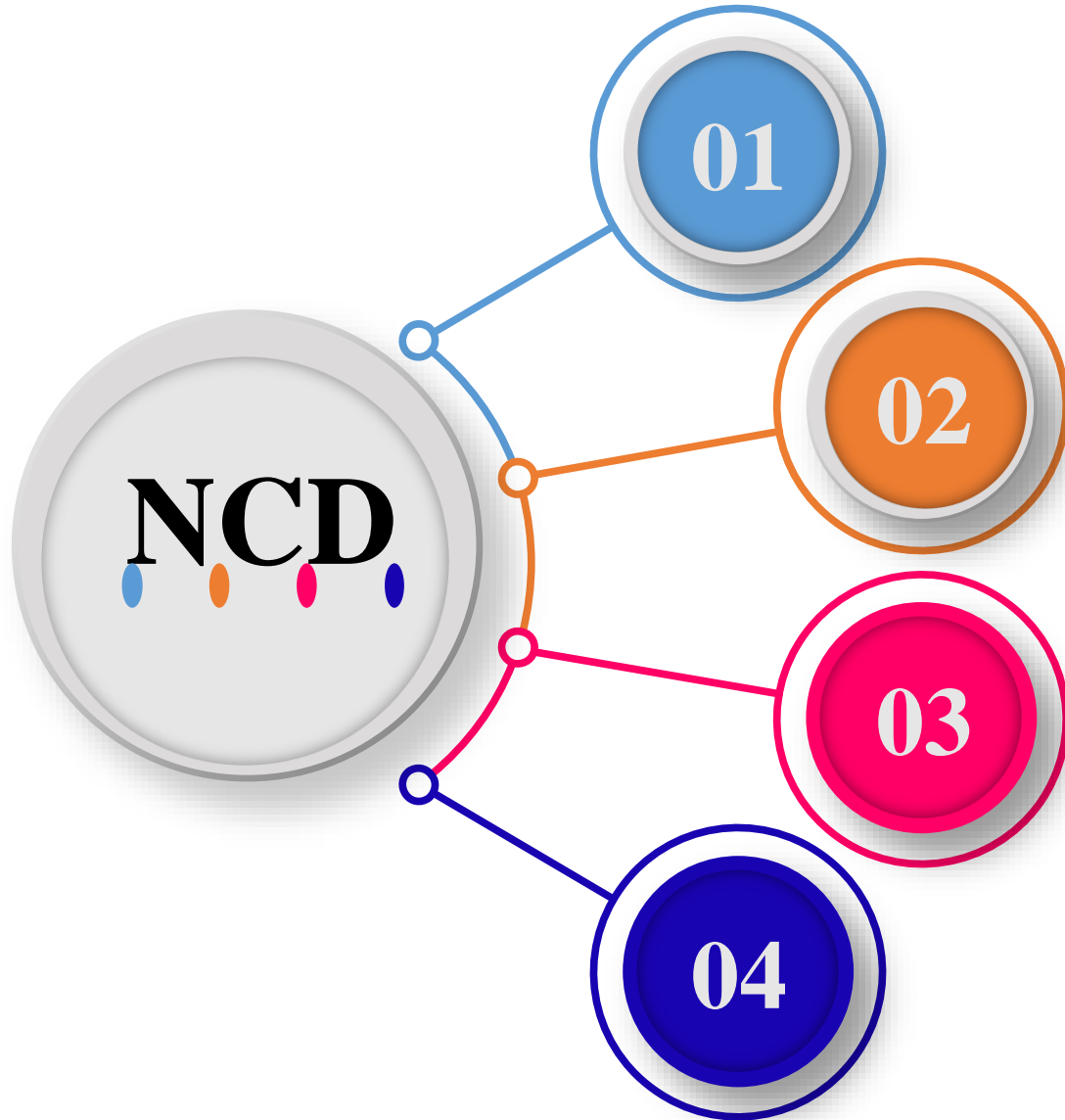
- 01** Background
- 02** Global & Bangladesh Perspective of NCD
- 03** Epidemiology of NCD
- 04** Nutrition Transition & Impacts
- 05** Prevention

# Nutrition → NCDs

*How Dietary Factors Drive Noncommunicable Diseases*



# What is NCD



**Cardiovascular  
Diseases**

**Cancers**

**Chronic Respiratory  
Diseases**

**Diabetes**

# Global Burden of NCDs



**43 million deaths in 2025**

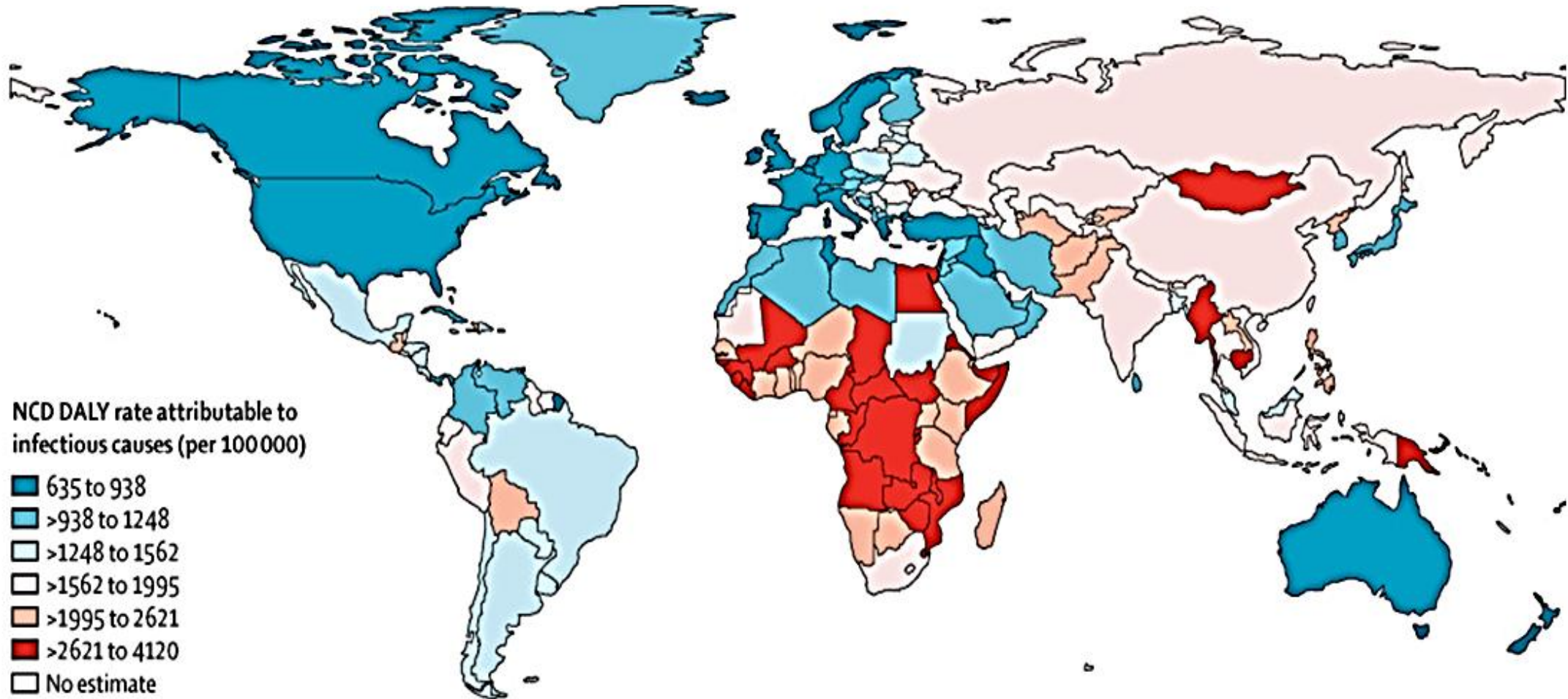
**75% of all deaths in 2025**

**73% deaths prematurely in low-to-middle income countries**

Source : WHO

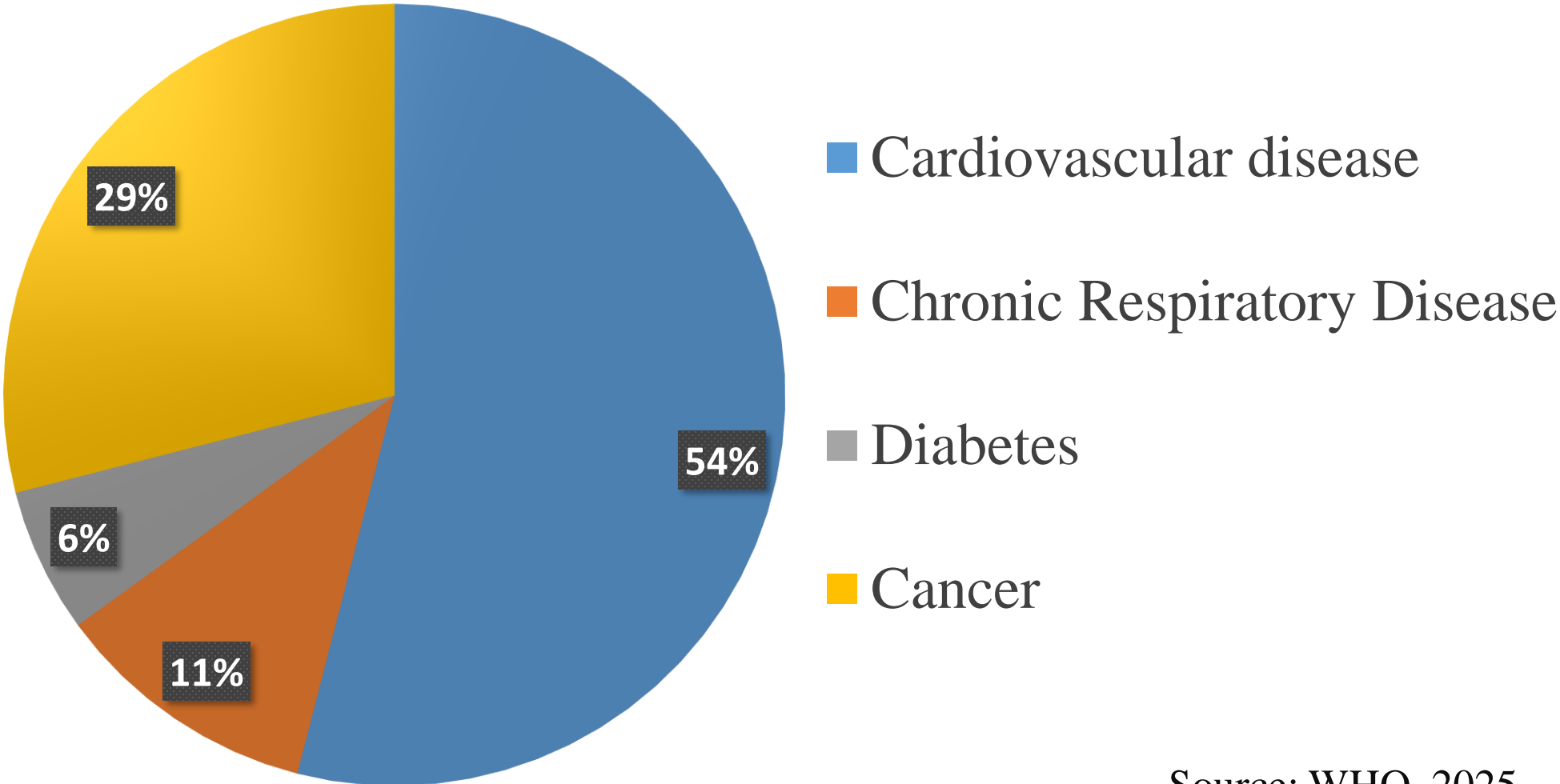
# Global Burden of NCDs

Annually premature deaths: 15 million (ages 30-69)



Age standardized rates of DALY from NCDs

# Global Prevalence of NCDs



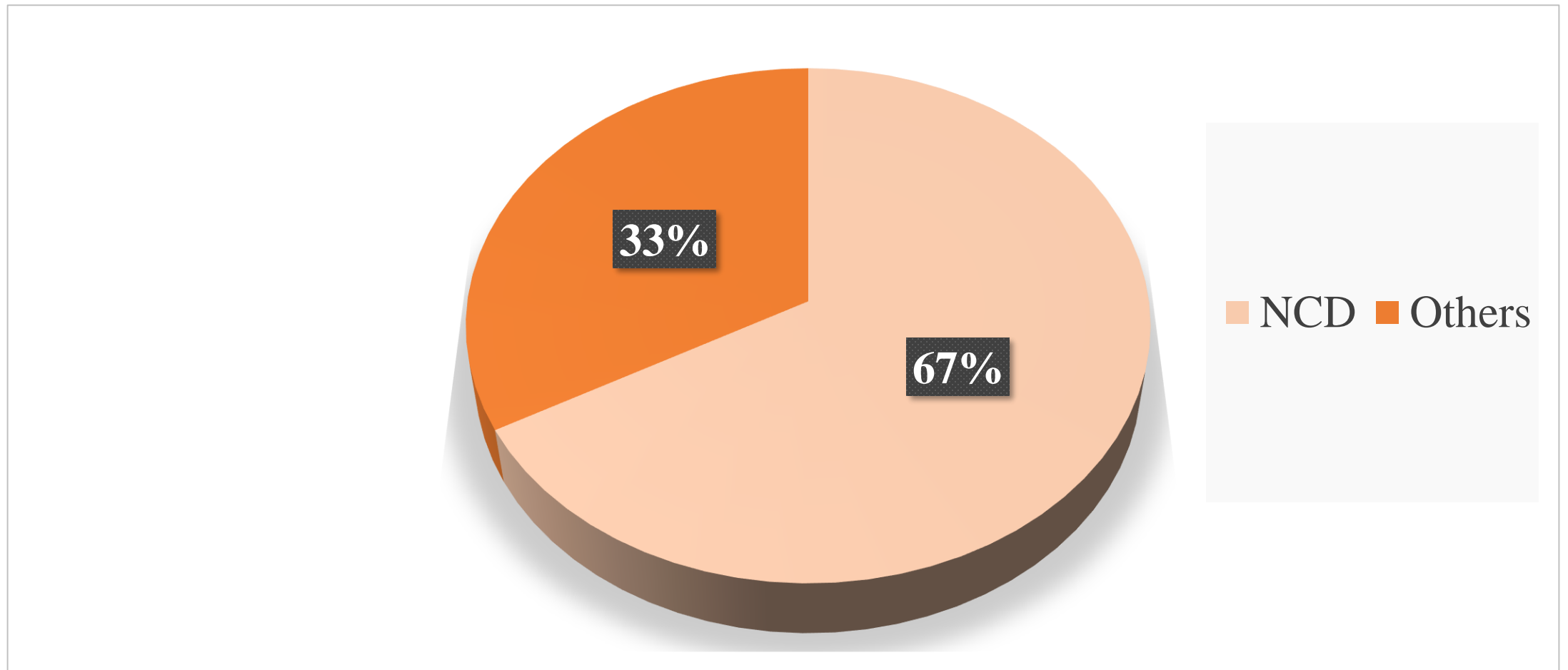
Source: WHO, 2025

# NCD Trends Over Decades

<b>Metric</b>	<b>2000</b>	<b>2010</b>	<b>2021</b>
Total Deaths	~35 million	~40 million	43 million
Percentage	~60%	~71%	75%
Premature deaths (<70 yrs)	~15 - 16 million	~17 million	18 million
Premature Deaths in LMICs	80 - 85%	86%	82%
Four Major NCDs Share	~78%	~80%	82%

Sources: WHO Global Health Estimates (2000–2021), GBD 2021, NCD Countdown 2030 reports

# Bangladesh Death Prevalence



Source: WHO, 2021

# NCD Burden in Bangladesh

**71 % of all death**



**1 in 5 at risk of dying**

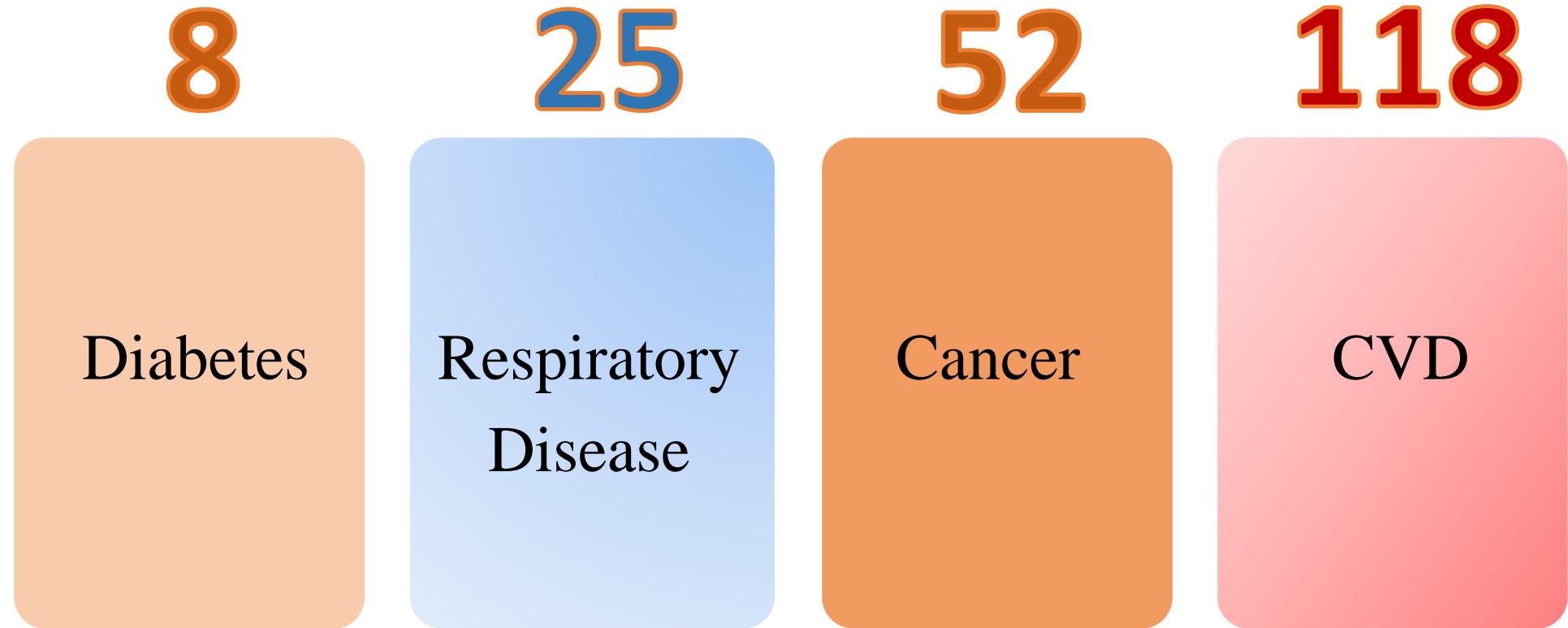


**30000 Premature death**



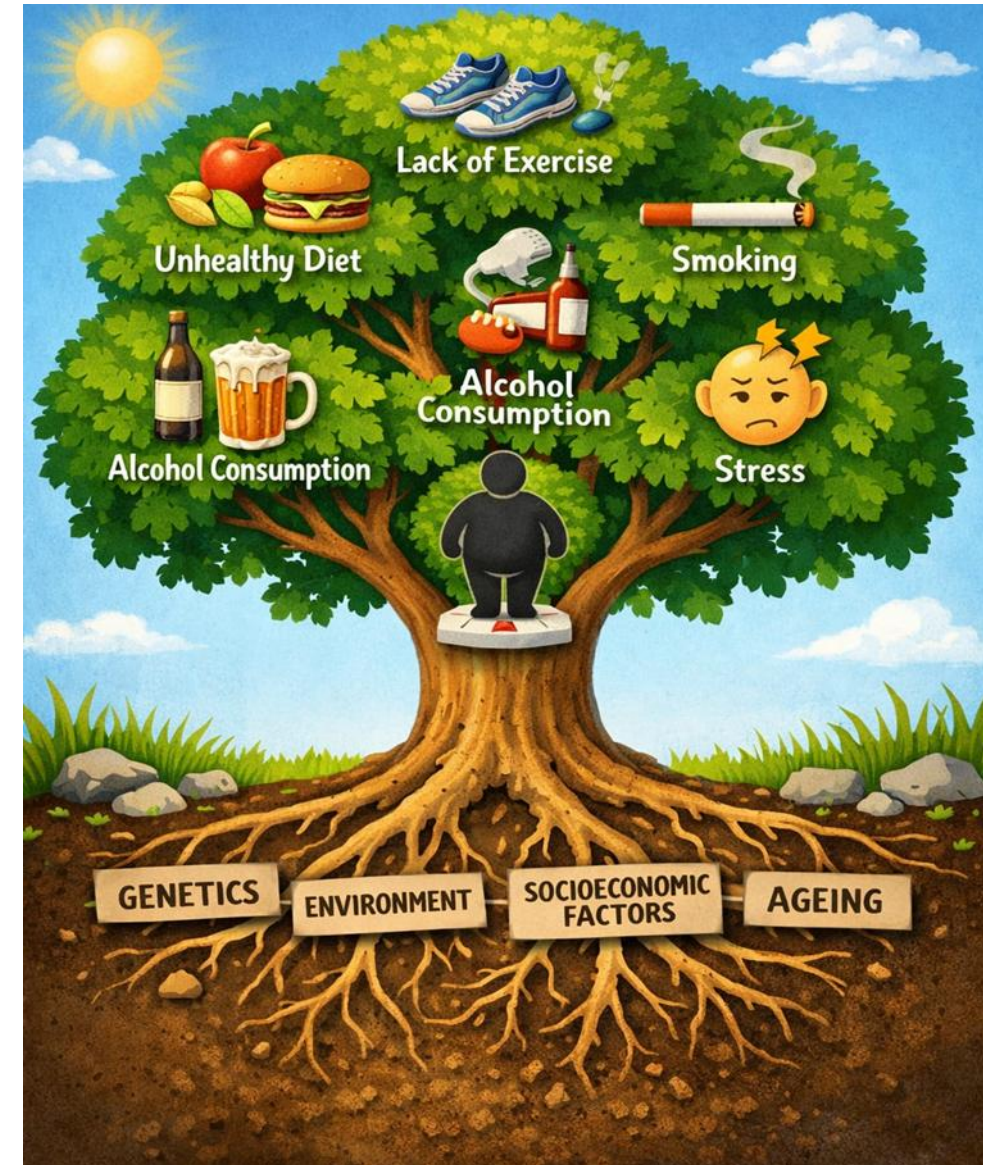
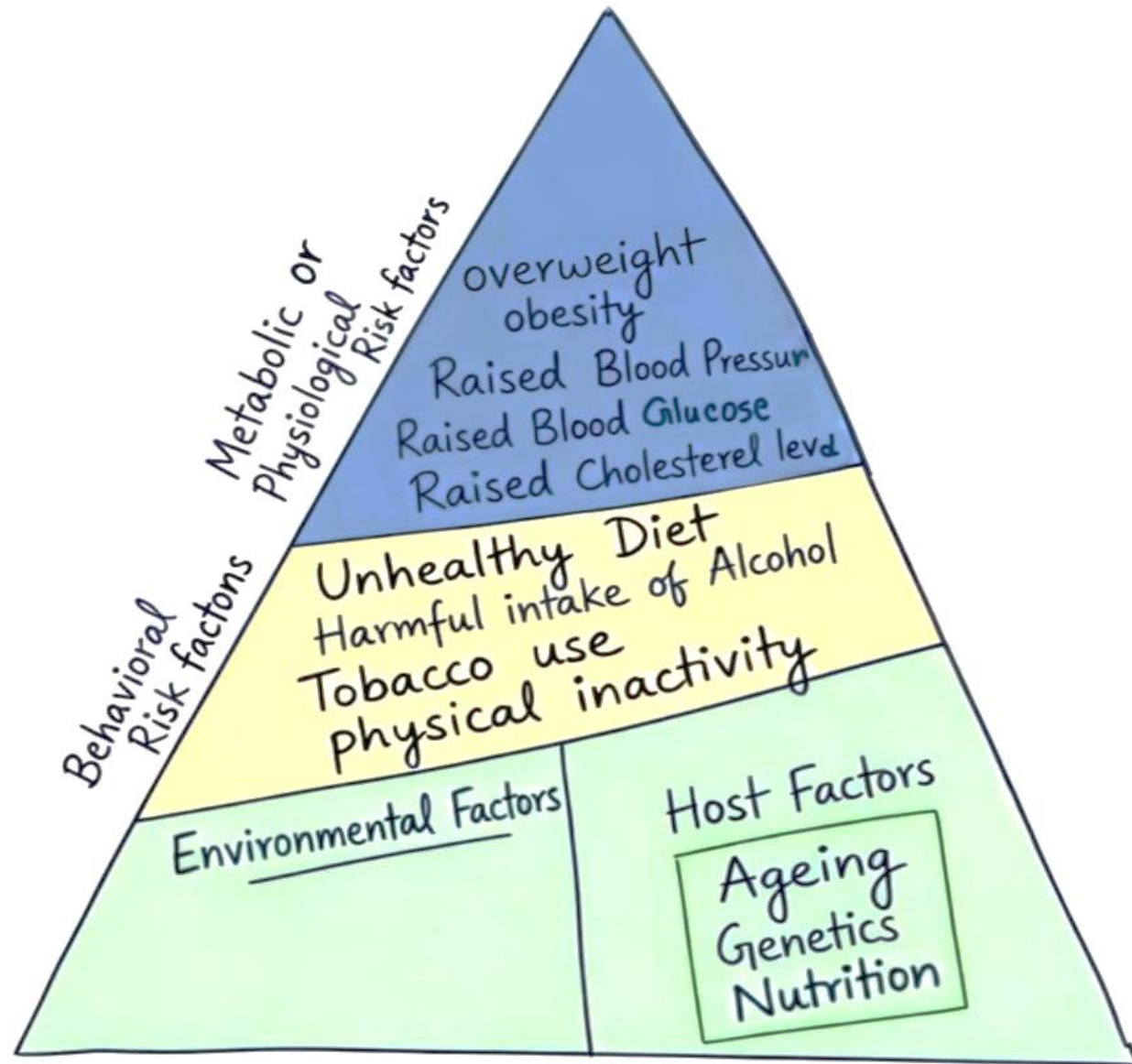
**1 in 4 Suffer in CVD**

# Ranking of NCD in Bangladesh

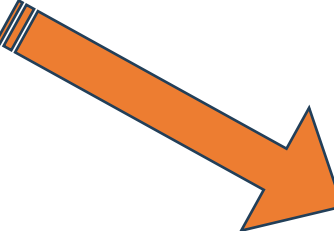


**Source: International Diabetic Federation, World Life Expectancy, The Lancet**

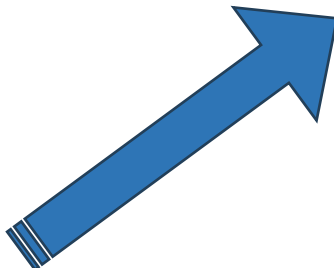
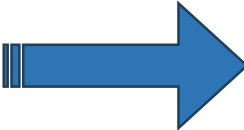
# Epidemiology of NCD



# Nutrition Transition and Impact on NCDs



**Higher  
Risk of  
NCD**



# পরীক্ষায় বৃত্তি পেলে মাসে ছয়টা বার্গার খাবো, বললেন এক ছোট শিক্ষার্থী

Source : The Student Journal | 17 April, 2026 | Video : Collected



# Prevention



# Individual Education



**Avoid a High Calorie Diet**



**Salt <5g/day**



**Fruits and Vegetables**

# Mass Education



৬-২৩ মাস বয়সী শিশুর সুস্বাস্থ্যের জন্য  
ভাত সহ কমপক্ষে ৪ টি খাদ্য শ্রেণী  
থেকে খাবার খাওয়াতে হবে।

শস্য, বাস, ফলী রাসায়নিক পামের শিল্পের  
নদীদেব পক্তি বৃতি হবে

দুগ্ধ শক্তি পুষ্টি  
রাদেব কমা বারিবল

দুগ্ধজাত বক্তি

জা ও ফলীদেব শিবি ঝাভা বিস  
উল ও শিবি ঝাভা সফা স্বাস্থ্য

মাংসের দুগ্ধ দুগ্ধ সাক্তের দুগ্ধের সাথে বাজ্জতি খাবার শুরু করার সঠিক সময় ৬ মাস পূর্বে হইবে

দুগ্ধ ও ফলীদেব সাক্তি বক্তি শিবি ঝাভা  
গিহেবের ক্লে উদ্বিগ্ধে কটা বৃতি হবে

কাণ্ডন, আশি বুরু জাশি

জেল দ বি রাসায়নিক পামের শিল্পের  
পাটনের পাক বৃতি হবে

অস, মাসে, তিম ও বিলেব কৈট উটল  
বেল ঘটন, হাজ্জ মলপুস, বৃতি বাবুদেব সেল, দুগ্ধ মক্কা ঝাভা সাক্তি বৃতি হবে

পারদেব সেস

৬ মাসের পূর্বে পকে হস্ততা  
অসি, মাসে, ওস, ২৪৪-২৪৪১  
সেটা: ০৩২০২৪০৩৪০, সেটা: ০৩২৪০৩৪০



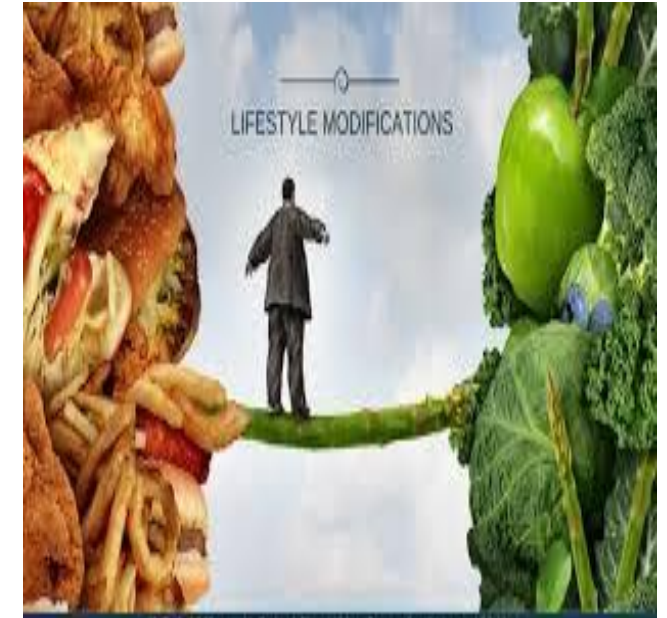
# Health Promotion



Health Education



Nutritional Intervention



Lifestyle Modification

# Nutritional Intervention



**Nutrition education  
program for pregnant  
women**



**Fortified school  
meals**



**Child Feeding  
programme**

# Specific Protection

**Mediterranean Diet**

**Dash Diet**

**Use of Specific Nutrients**

**Calorie control**

STEP  
01

STEP  
02

STEP  
03

STEP  
04

# Mediterranean Diet

**Lowers the risk of**

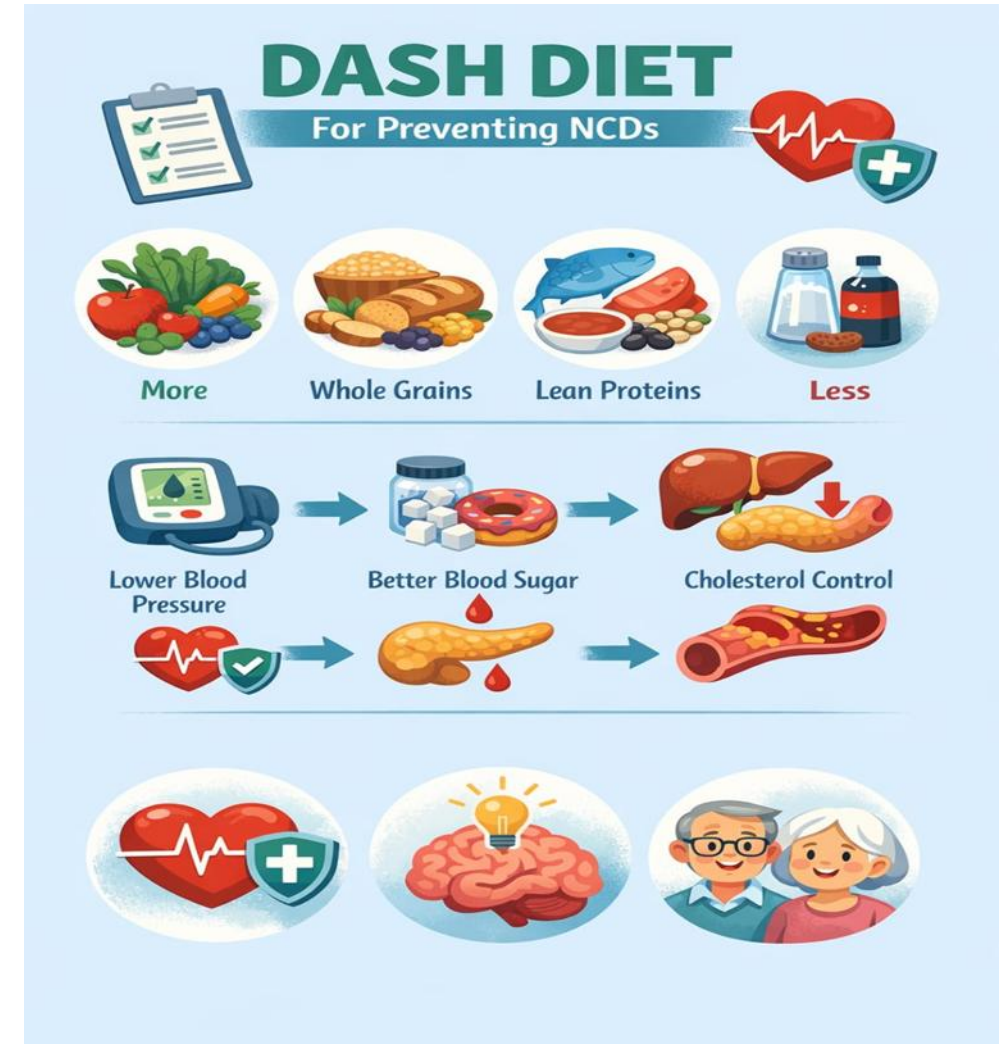
- **Heart disease**
- **Stroke &**
- **Diabetes Mellitus**



# DASH Diet

➤ **Reduces blood pressure**

➤ **Improves lipid profile**



# Use of Specific Nutrients



**Fiber**



**Potassium**



**Omega3**



**Healthy Fats**

# Calorie Control

## Daily Calorie Requirement

**Adult Women:  
1600 – 2200 kcal/day**

**Adult Men:  
2000 – 2800 kcal/day**

Source: WHO

## Junk Food



BURGER



PIZZA



DOUGHNUT



FRIES



SANDWICH



POPCORN



COOKIES



CHIPS



## Dietary Recommendation (WHO)

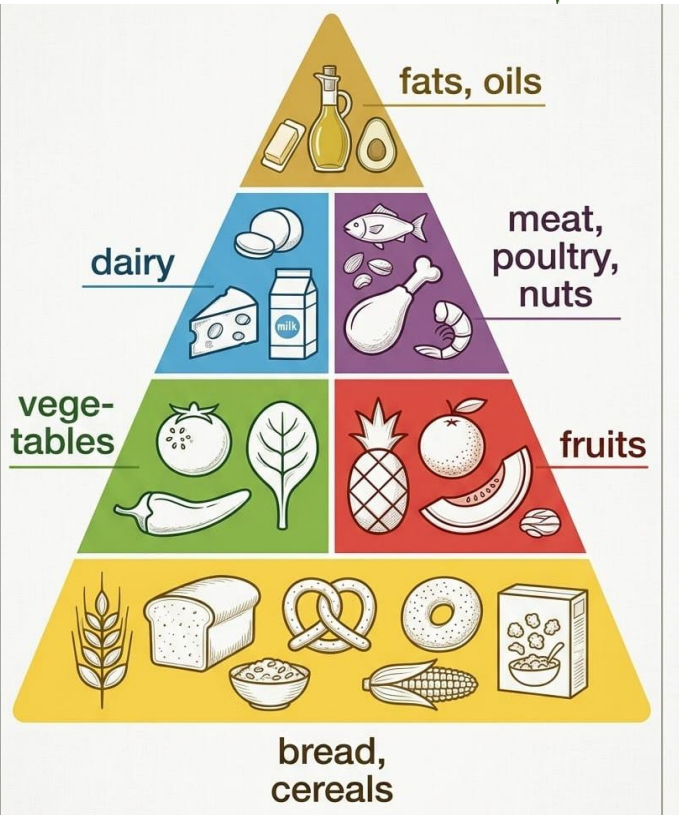
### WHO: Core dietary recommendations

- Eat a variety: vegetables, fruits, legumes, nuts and whole grains
- At least 400 g/day of fruits & vegetables for those >10 years old
- Limit free sugars to <10% (ideally <5%) of total energy intake
- Limit total fat to <30% of total energy, saturated fat <10%, trans fats

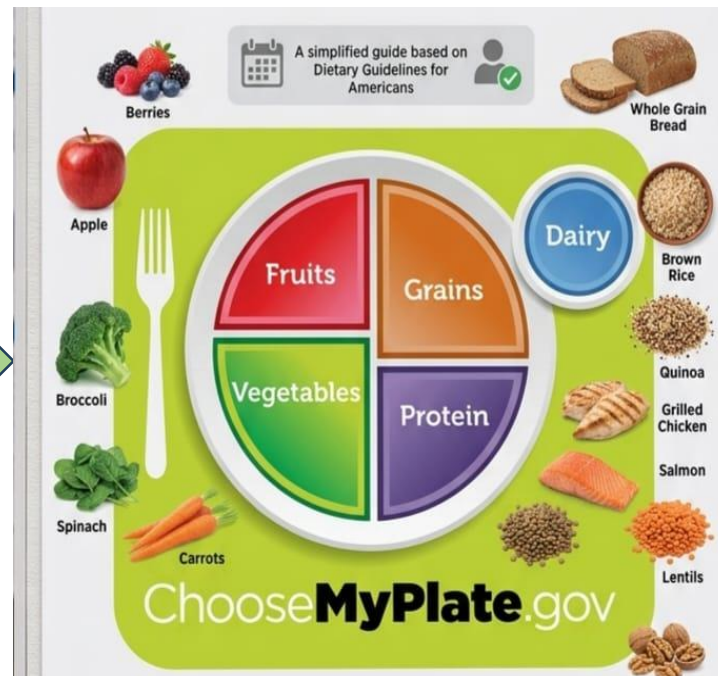


# Food Pyramid

1992



2011



2026



# One Portion Size

## PROTEIN / MEAT (3 oz)

আপনার হাতের তালুর সমান।

Recommended portion is approximately 3 ounces. Look for the "palm" comparison.



## CARBOHYDRATES (1 cup)

এক মুঠো বা একটি টেনিস বলের আকারের।

A handful or tennis ball-sized amount is about Use your fist.



## VEGETABLES (2 portions)

দুই হাত একসাথে জড়ো করে।

Collect a generous serving that fits in two cupped hands together.

Generous Portion  
(2 cups+)



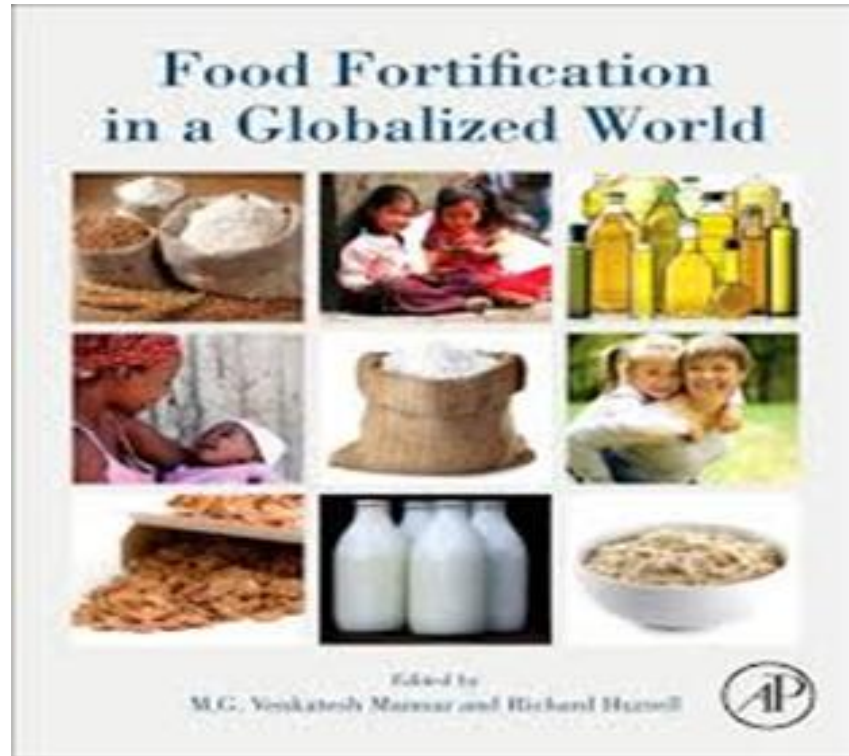
## FAT / OIL (1 portion)

আপনার বুড়ো আঙুলের ডগা।

A portion of fat or oil is about the size of your thumb-tip.



# National Policies



**School Nutrition and  
Healthy Food Programs**



**Food Fortification and  
Micronutrient Programs**

# National Policies

cont..



**Integration of Nutrition Services into Primary Healthcare**



**National Strategy for Prevention and Control of NCDs (2018–2030)**

# International Policy & Program



**‘Best Buy’ Nutrition Interventions (WHO)**



**Fiscal Policy**

## **Take Home Message**

- **Our food can be our medicine and our medicine can be our food.**
- **Eat to live not live to eat.**
- **Junk Food should be the last food.**
- **Nutrition counselling should be done during patient care.**

# References

- **WHO Global Strategy on Diet, Physical Activity, and Health**
- **Global Burden of Disease Study 2022WCRF**
- **International/ NCD Alliance Nutrition Frameworks**
- **National Institutes of Health**

Thank  
you!

A vibrant, child-friendly graphic featuring the text "Thank you!" in a bold, rounded, multi-colored font. The word "Thank" is on the top line, and "you!" is on the bottom line. Each letter is a different color: 'T' is red, 'h' is blue, 'a' is yellow, 'n' is green, 'k' is pink, 'y' is orange, 'o' is green, 'u' is purple, and the exclamation point is light blue. The text is surrounded by several stylized flowers and suns in various colors including pink, purple, green, light blue, and yellow. The overall style is bright and cheerful.

