To view a set of 16 slide materials on NCDs, use the scroll option.

This material is developed by

Madras Diabetes Research Foundation (MDRF), Chennai

and the

World Health Organization (WHO) New Delhi

under the GOI-WHO collaborative programme 04-05.

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NON COMMUNICABLE DISEASES (NCDs)

NON COMMUNICABLE DISEASES INCLUDE

- Cardiovascular disease (CVD)
- Diabetes Mellitus (DM)
- Chronic obstructive pulmonary disease (COPD)
- Cancer

RISK FACTORS

- High blood pressure
- Tobacco use
- Alcohol
- Raised blood glucose
- Physical inactivity
- Obesity
- Raised cholesterol
- Decreased vegetable & fruit intake

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BLOOD PRESSURE & NCDs

‘High blood pressure – silent killer’

Know your blood pressure as high blood pressure increases the risk of

- Heart attacks
- Strokes
- Kidney problems

NORMAL BP*:

SYSTOLIC BP 130 or less
DIASTOLIC BP 80 or less

Heart contracts
Heart Relaxes

* Note: BP Varies with age

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HIGH BLOOD PRESSURE
Causes of high blood pressure

- Family history of Hypertension
- Overweight or obese
- Excess Alcohol
- Increased consumption of salt
- Kidney disease

What to do if one has high blood pressure?

- Maintain a healthy body weight
- Increase physical activity
- Eat a healthy diet - low in salt and fat and high in vegetables and fruits
- Do not smoke or drink too much alcohol
- Have your blood pressure checked regularly

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WHAT IS IDEAL BODY WEIGHT?

Ideal body weight is based on your height, age and sex.

Maintaining an ideal body weight can significantly reduce your risk of:

- Heart disease
- Diabetes
- Stroke
- Depression
- Certain cancers
- High blood pressure
- High blood cholesterol

The more weight one gains, the greater the risk for NCDs.
WHAT IS BODY MASS INDEX?

Body Mass Index (BMI) = \( \frac{\text{Body weight (in kilograms)}}{\text{Height (in metres)}^2} \)

<table>
<thead>
<tr>
<th>BMI Range</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 18 Kg/m²</td>
<td>Underweight</td>
</tr>
<tr>
<td>18-23 Kg/m²</td>
<td>Ideal weight</td>
</tr>
<tr>
<td>23.1-25 Kg/m²</td>
<td>Overweight</td>
</tr>
<tr>
<td>&gt; 25 Kg/m²</td>
<td>Obese</td>
</tr>
</tbody>
</table>

Remember "Fatness" is not "Fitness"

If BMI increases, it increases the risk of
- Diabetes
- High blood pressure
- Heart attacks and
- Stroke

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WAIST CIRCUMFERENCE MATTERS!

Waist circumference - an indirect measure of abdominal fat in the body.

MEASURE YOUR WAIST, MEASURE YOUR RISK FOR:
- Diabetes,
- Hypertension
- Heart disease
- Stroke
- Abnormal cholesterol levels

<table>
<thead>
<tr>
<th>Waist circumference</th>
<th>Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>&lt;90 cm [36 inches]</td>
</tr>
<tr>
<td>Females</td>
<td>&lt;80 cm [32 inches]</td>
</tr>
</tbody>
</table>

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IMPORTANCE OF VEGETABLES & FRUITS

They contain:

- Essential nutrients,
- Vitamins,
- Dietary fibre
- and
- Other bioactive compounds

Daily intake of vegetables and fruits decreases risk of:

- Heart disease
- Cancer
- Type 2 diabetes
- Obesity
- Nutrient deficiency disorders

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DIETARY FAT & NCDs
'REDUCE FAT – PREVENT/CONTROL NCDs'

Which fat to use?

**Use**
- Monounsaturated fatty acids
  - Groundnut oil
  - Mustard oil
  - Olive oil

**Use**
- Polyunsaturated fatty acids
  - Sunflower oil
  - Safflower oil
  - Corn oil

**Restrict**
- Saturated fatty acids
  - Ghee, butter
  - Palm oil
  - Vanaspathi
  - Coconut oil

**Cooking tips for reducing fat**
- Use very little cooking oil
- Instead of frying foods, bake, boil, grill, steam, roast, or microwave them
- Trim the fat and take skin off meat before cooking
- Eat chicken instead of beef, pork or mutton
EXERCISE & NCDs

Increase physical activity to decrease Non Communicable Diseases

Physical activity lowers the risk of NCD’s by:

- Lowering blood sugar, blood pressure and blood fats
- Increasing oxygen levels in the body
- Helping to lose weight
- Reducing stress
- Strengthening the heart, muscles and bones
- Improving blood circulation
- Toning up muscles

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HOW EXERCISE HELPS PREVENT CHRONIC DISEASES

HEART DISEASE:
Exercise
- Increases the capacity of the heart’s blood vessels
- Increases blood flow to the heart
- Enhances blood enzymes that break down clots

DIABETES:
Exercise
- Increases utilisation of blood sugar
- Reduces serum cholesterol
- Reduces blood pressure

OBESITY:
Exercise
- Increases energy utilisation and thus reduces body weight

COLON CANCER:
Exercise
- Increases intestinal activity
- Reduces contact time of carcinogens with digestive tract

REMEMBER - YOU CAN CUT DOWN HOSPITAL AND MEDICAL BILLS BY REGULAR EXERCISE

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EXERCISE

HOW OFTEN?
At least 5 Times a week

HOW INTENSE?
Start slowly and work up gradually EVERY WEEK

HOW LONG?
Should last at least 30 minutes (if possible, go up to 45mins-1Hr/Day)
Have a warm up and cool down period
TAKE PLENTY OF FLUIDS

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TIPS FOR DISTRIBUTING YOUR EXERCISE THROUGHOUT THE DAY

1. Climb stairs - Don't take escalator
2. Park your vehicle further away and walk
3. Play with your children
4. Involve in House hold work [Washing, Cleaning and Gardening]

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TOBACCO USE - INCREASES RISK FOR NCDs

TOBACCO USE CAN DAMAGE
- Blood vessels
- Lungs
- Heart

AND

INCREASE RISK OF:
- Cancer
- Lung Disease
- Heart Attack

BENEFITS OF QUITTING TOBACCO:
- Decreases risk of heart attacks and strokes
- Decreases risk of cancer
- Improves blood circulation
- Decreases blood pressure
- Improves sense of taste and smell
- More oxygen in the bloodstream
- You will feel less tired and more refreshed
- Remember, not only you, but your whole family, will also benefit

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ALCOHOL CONSUMPTION & NCDs

Excess alcohol consumption increases risk of:

- Road accidents
- Depression
- Cancer
- Damage to the brain
- Birth defects
- Diabetes
- Cirrhosis of Liver

What can you do?

- Avoid consumption of alcohol

"Reduce alcohol, improve quality of life"

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CHANGE LIFE STYLE
- PREVENT NCDs

- Be active
- Reduce fat intake
- Eat more vegetables & fruits
- Control weight
- Decrease stress
- Quit tobacco chewing & smoking
- Reduce alcohol use

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IMPORTANCE OF NCD RISK FACTOR SURVEILLANCE

Helps to:

- Obtain representative data on risk factors for NCDs
- Reduce the level of exposure of individuals/populations to common risk factors for NCDs
- Monitor current and ongoing trends in NCDs burden
- Reduce morbidity and premature mortality due to NCDs
- Plan and implement effective health policies

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