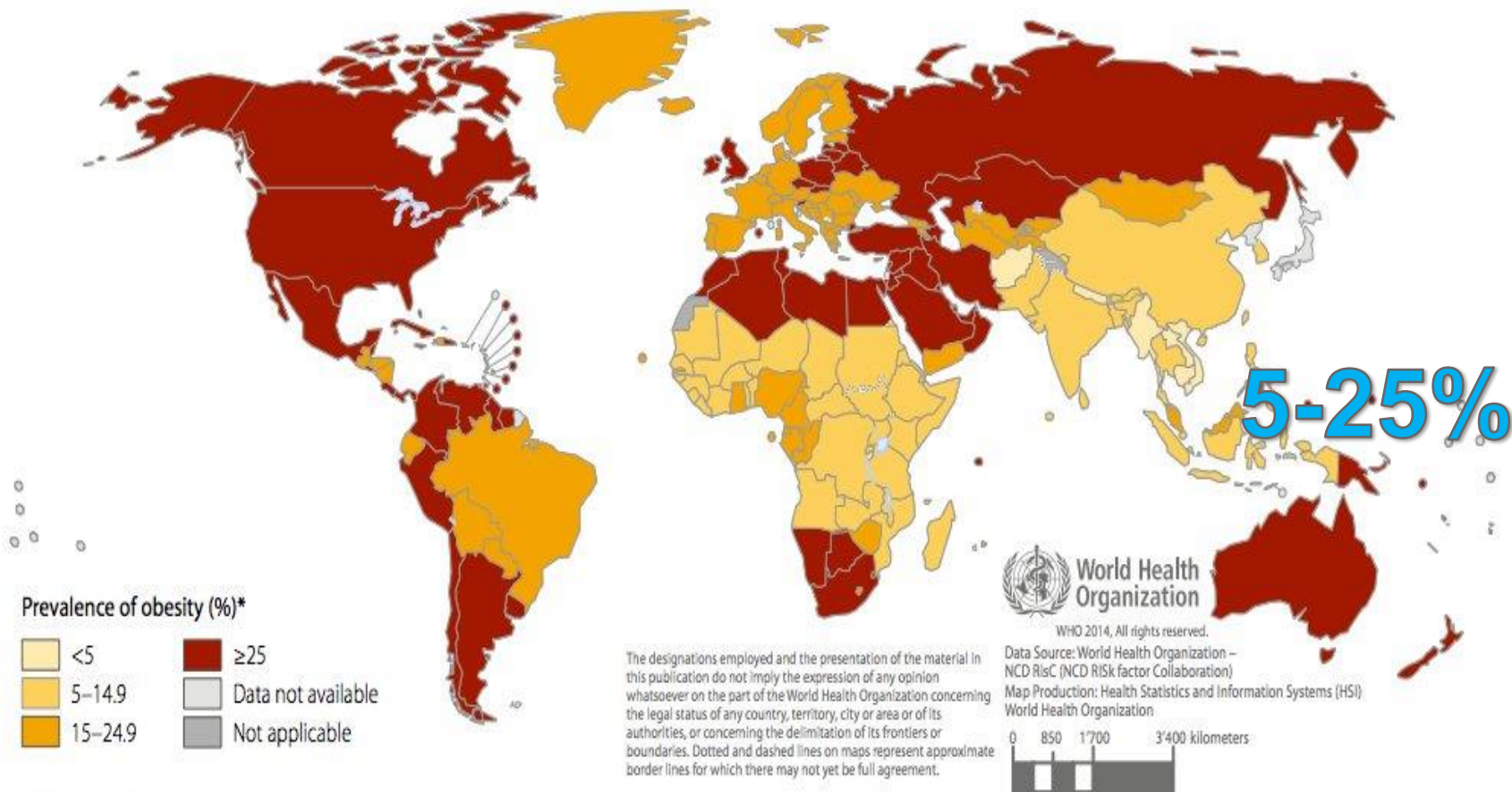




[www.esaunggul.ac.id](http://www.esaunggul.ac.id)

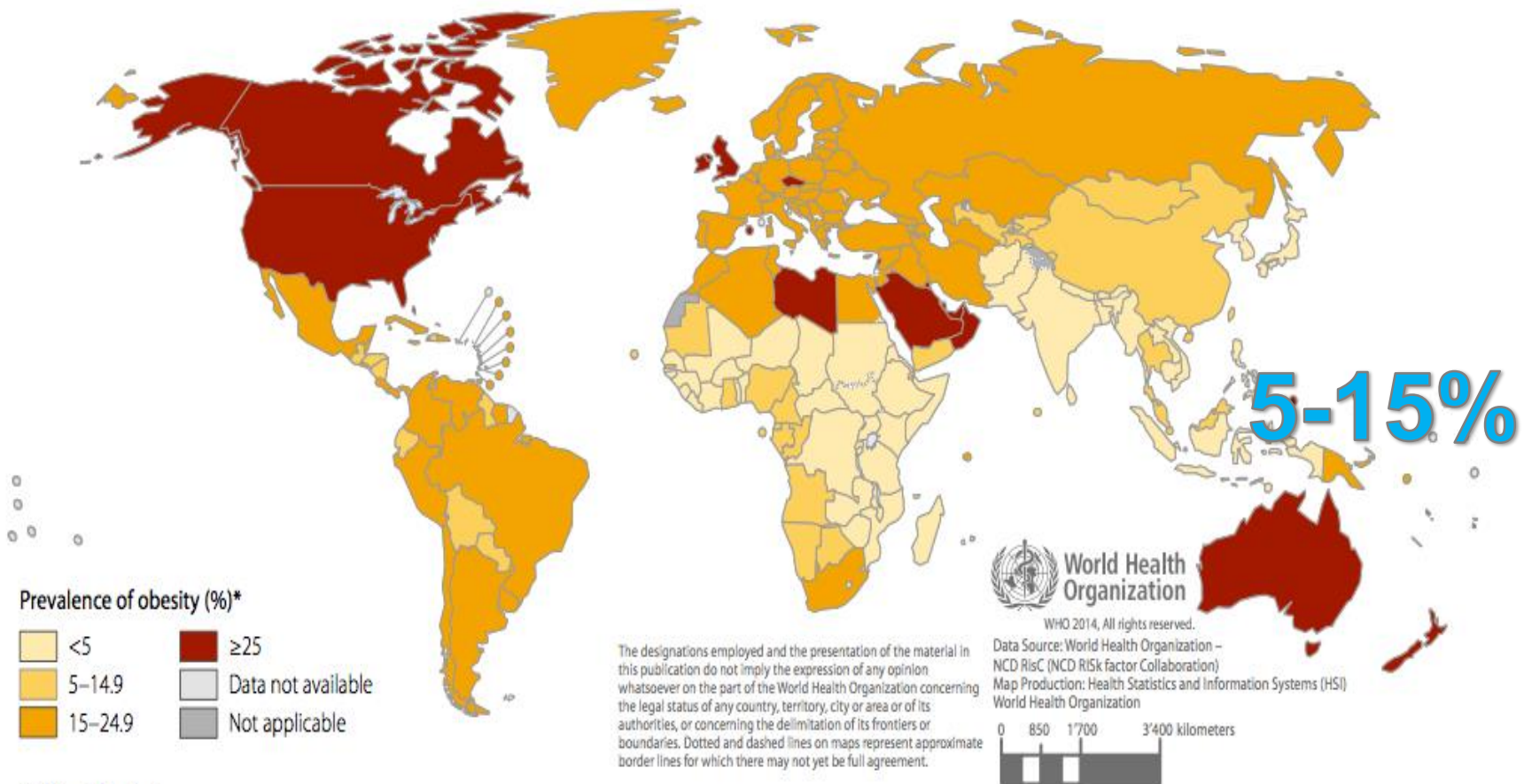
**MNT Obesitas**  
**Anugrah, Novianti, SGz, M.Gizi**  
**PRODI ILMU GIZI**

# PREVALENSI OBESITAS PEREMPUAN ( $\geq 18$ TH) DI DUNIA



\* BMI  $\geq 30$  kg/m<sup>2</sup>

# PREVALENSI OBESITAS LAKI-LAKI ( $\geq 18$ TH) DI DUNIA



The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

# What is obesity ?

Suatu kondisi medis berupa kelebihan lemak tubuh yang terakumulasi sedemikian rupa sehingga menimbulkan dampak merugikan bagi kesehatan, yang kemudian meningkatkan masalah kesehatan.

## Types of Obesity

Are you an Apple or a Pear ?

MedicosNotes.com

### Apple/Android

1. Excess Fat on the Abdomen
2. Common in Men
3. Significant correlation with Metabolic Syndrome.



### Pear/Gynoid

1. Excess Fat on the thighs and buttocks
2. Common in Women
3. Non significant correlation with Metabolic Syndrome.

# INDEKS MASSA TUBUH

- Standar Internasional untuk menentukan status gizi seseorang menggunakan indeks massa tubuh (IMT). (Gibson, 2005, p 259)

$$\text{IMT} = \text{Berat Badan (kg)} / \text{Tinggi Badan (m}^2\text{)}$$

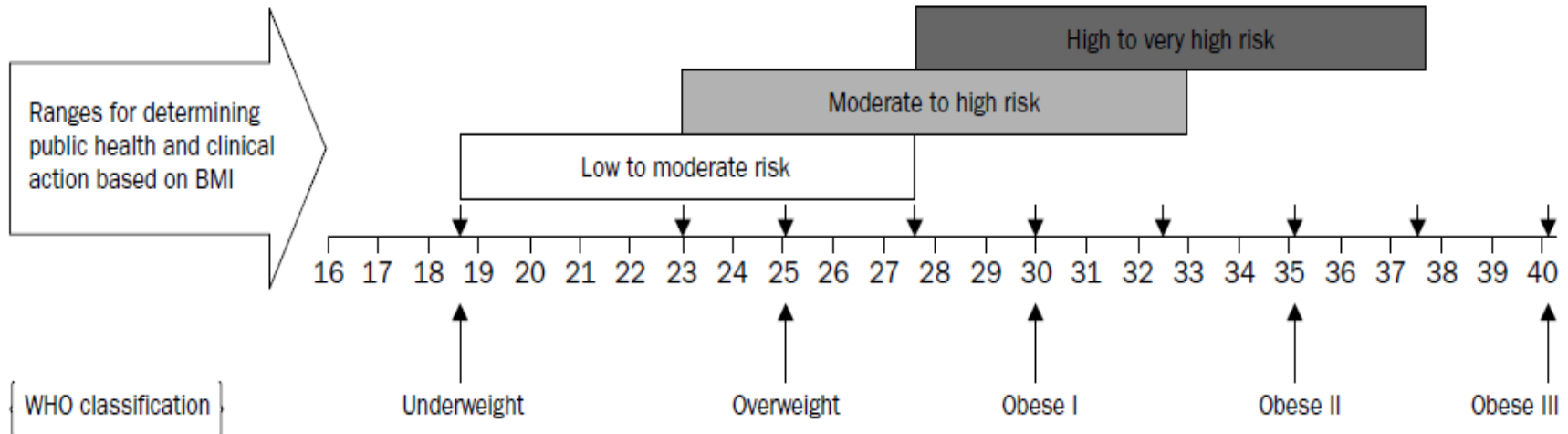
## KLASIFIKASI INDEKS MASSA TUBUH – WHO (2004)

Classification	BMI(kg/m <sup>2</sup> )	
	Principal cut-off points	Additional cut-off points
<b>Underweight</b>	<18.50	<18.50
Severe thinness	<16.00	<16.00
Moderate thinness	16.00 - 16.99	16.00 - 16.99
Mild thinness	17.00 - 18.49	17.00 - 18.49
<b>Normal range</b>	18.50 - 24.99	18.50 - 22.99
		23.00 - 24.99
<b>Overweight</b>	≥25.00	≥25.00
Pre-obese	25.00 - 29.99	25.00 - 27.49
		27.50 - 29.99
<b>Obese</b>	≥30.00	≥30.00
Obese class I	30.00 - 34.99	30.00 - 32.49
		32.50 - 34.99
Obese class II	35.00 - 39.99	35.00 - 37.49
		37.50 - 39.99
Obese class III	≥40.00	≥40.00

Source: [http://apps.who.int/bmi/index.jsp?introPage=intro\\_3.html](http://apps.who.int/bmi/index.jsp?introPage=intro_3.html)

# WHO EXPERT CONSULTATION FOR ASIAN

- Proportion of Asian people with a high risk of type 2 diabetes and cardiovascular disease is substantial at BMI's lower than the existing WHO cut-off point for overweight (= 25 kg/m<sup>2</sup>).
- Cut-off point for observed risk varies from 22 kg/m<sup>2</sup> to 25 kg/m<sup>2</sup> in different Asian populations and for high risk, it varies from 26 kg/m<sup>2</sup> to 31 kg/m<sup>2</sup>



# PENENTUAN STATUS GIZI (IMT)

Klasifikasi	WPRO 2000
<b>Underweight</b>	<b>&lt;18,5</b>
<b>Normal range</b>	<b>18,5 – 22,9</b>
<b>Overweight</b>	<b>23 – 24,9</b>
<b>Obese</b>	
<b>Obese class I</b>	<b>25 – 29,9</b>
<b>Obese class II</b>	<b>≥30</b>

# LINGKAR PERUT DAN PINGGUL

## Lingkar Perut

Lingkar perut diukur pada titik tengah umbilikal deraan tingkat ketelitian 0,5 cm.  
(Van der Koy and Seidell, 1993)

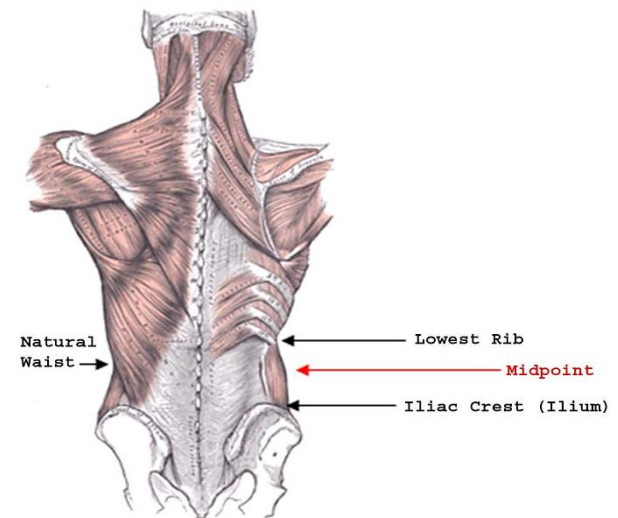
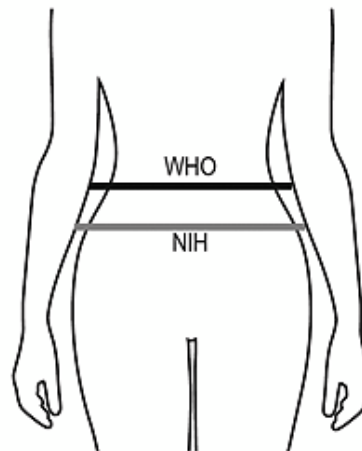
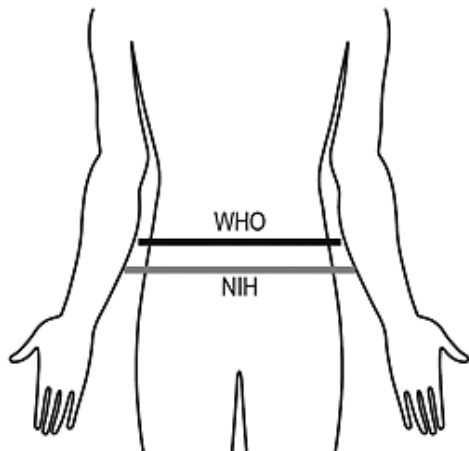
<b>WC cut-off points for Asia and Indians :</b>	<b>Men</b>	<b>Women</b>
	94cm (37 inches)	80cm (32 inches)
	90cm (35 inches)	80cm (32 inches)

*(NIH :  $\geq 102$  cm and  $\geq 88$  cm respectively for Americans)*

*Source : WHO/IOTF/IASO (2000). The Asia-Pacific perspective: Redefining Obesity and its Treatment.*

NHANES/NIH : top of the iliac crest

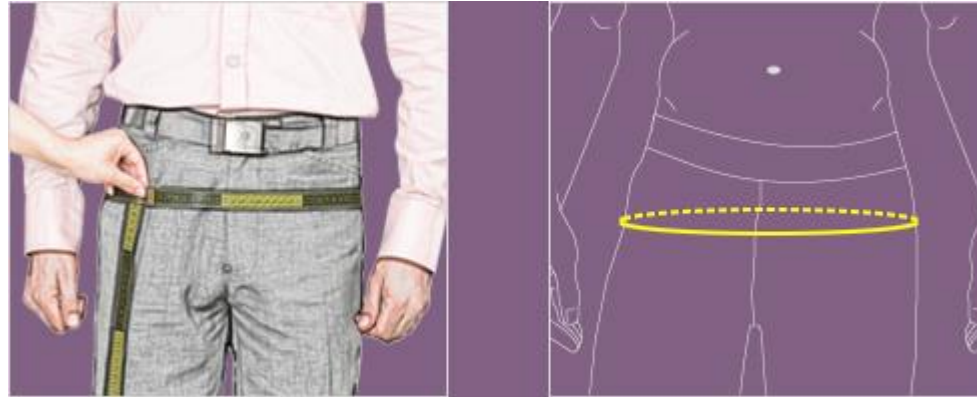
WHO : midpoint between the last palpable rib and top of the iliac crest





## Lingkar Pinggul

Diukur pada titik terbesar lingkaran di sekitar pinggul & panggul dengan tingkat ketelitian 0,5 cm.



## Rasio Lingkar Perut dan Pinggul (Waist-Hip Ratio/WHR)

Adalah rasio atau hasil perbandingan hasil pengukuran lingkaran perut dan lingkaran pinggul.

$$\text{WHR} = \frac{\text{waist circumference}}{\text{hip circumference}}$$

**Table A1** World Health Organization cut-off points and risk of metabolic complications

Indicator	Cut-off points	Risk of metabolic complications
Waist circumference	>94 cm (M); >80 cm (W)	Increased
Waist circumference	>102 cm (M); >88 cm (W)	Substantially increased
Waist-hip ratio	≥0.90 cm (M); ≥0.85 cm (W)	Substantially increased

M, men; W, women

*Source: WHO expert consultation, Waist circumference and Waist-Hip Ratio, 2008.*

# FAKTOR RISIKO

- **Faktor genetik**
- **Faktor lingkungan & perilaku:**
  - Pola & kesenangan makan dini dipelajari dari ortu
  - Porsi lemak makanan yang dikonsumsi
  - Asupan Alkohol
  - Energy expenditure → aktifitas fisik
  - Pengaruh Sosio-ekonomi, pendidikan, budaya
  - Mood & coping strategies
- **Kehamilan pada wanita**
- **Proses menua**

# **PENEGAKAN DIAGNOSA**

## **ANAMNESA**

- **Riwayat perkembangan obesitas**
- **Penyakit penyerta**
- **Pengobatan dan program diet**

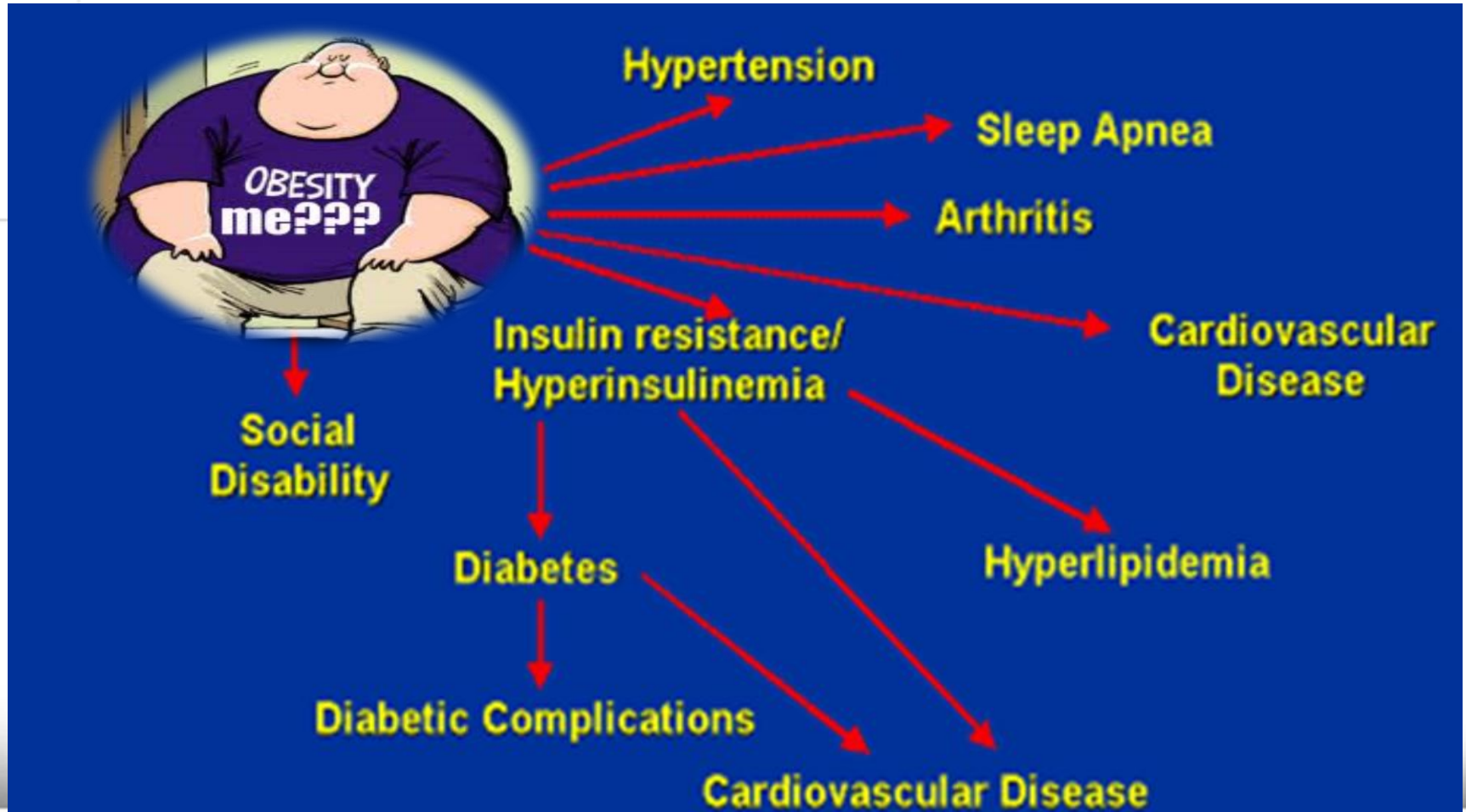
## **PEMERIKSAAN FISIK**

- **Suhu, tensi, nadi dll**
- **Antropometri**
- **Menentukan BBI dan IMT**
- **Pengukuran lingkar pinggang dan panggul, rasio normal pria < 1, wanita < 0,8**

## ***PEMERIKSAAN LABORATORIUM***

- **Hb**
- **Gula darah**
- **Profil lemak**
- **Kadar T3 dan T4**
- **Kadar insulin darah**

# CONSEQUENCES OF OBESITY



# WHY TREAT OVERWEIGHT AND OBESITY?

Because there is strong evidence that weight loss reduces risk factors for diabetes and cardiovascular disease, such as:



blood pressure

serum triglycerides

total serum cholesterol

low-density lipoprotein cholesterol

blood glucose levels



# WEIGHT LOSS PROGRAMS

Any safe and effective weight-loss program should include these components:

- Healthy eating plans that reduces caloric intake
- Tips on healthy behavior
- Slow and steady weight loss of about 0,5 kg a week
- Medical care if needed
- A plan to keep the weight off after you have lost it
- Regular physical activity and/or exercise instruction
- Not just temporary, it could be long lasting program

# SYARAT DIET

- 1. Harus bertitik tolak dari pendekatan rasional dan aman.**
- 2. Energi rendah → secara bertahap, Energi dikurangi 500 – 1000 kal / hari, Perhitungan Energi berdasarkan BBI**
- 3. Protein sedikit > tinggi, 1 – 1,5 g / kg BB**
- 4. Lemak sedang**
- 5. Karbohidrat rendah, terutama menggunakan karbohidrat kompleks**
- 6. Vitamin dan Mineral sesuai kebutuhan**
- 7. Cairan 8 – 10 gelas**
- 8. Tinggi serat**



# DIETARY GUIDELINES FOR AMERICANS, 2005

## KEY RECOMMENDATIONS FOR THE GENERAL POPULATION

### 1. Adequate Nutrients Within Calorie Needs

- Consume a variety of nutrient-dense foods (whole grains, fruits and vegetables, lean meats, low-fat dairy) and beverages within and among the basic food groups while choosing foods that limit the intake of saturated fats and trans fats, cholesterol, added sugars, salt, and alcohol.
- Meet recommended intakes within energy needs by adopting a balanced eating pattern, such as the USDA Food Guide or the Dietary Approaches to Stop Hypertension (DASH) Eating Plan.



# DIETARY GUIDELINES FOR AMERICANS, 2005

## KEY RECOMMENDATIONS FOR THE GENERAL POPULATION



### 2. Weight Management

- To maintain body weight in a healthy range, balance calories from foods and beverages with calories expended.
- To prevent gradual weight gain over time, make small decreases in food and beverage calories and increase physical activity.

### 3. Physical activity

- Engage in regular physical activity and reduce sedentary activities to promote health, psychological well-being, and a healthy body weight.
- Achieve physical fitness by including cardiovascular conditioning, stretching exercises for flexibility, and resistance exercises for muscle strength and endurance.



# DIETARY GUIDELINES FOR AMERICANS, 2005

## KEY RECOMMENDATIONS FOR THE GENERAL POPULATION

### 4. Food Groups to Encourage

- Consume a sufficient amount of fruits and vegetables while staying within energy needs.
- Choose a variety of **fruits and vegetables** each day. Select from all five vegetable subgroups (dark green, orange, legumes, starchy vegetables, and other vegetables) several times a week.
- Consume 3 or more ounce-equivalents of **whole-grain** products per day, with the rest of the recommended grains coming from enriched or whole-grain products. At least half the grains should come from whole grains.
- Consume 3 cups per day of **fat-free or low-fat milk** or equivalent milk products.



# DIETARY GUIDELINES FOR AMERICANS, 2005

## KEY RECOMMENDATIONS FOR THE GENERAL POPULATION

### 5. Fats

- Keep total fat intake between 20 - 35 percent of calories (With most fats coming from sources of polyunsaturated and monounsaturated fatty acids, such as fish, nuts, and vegetable oils).
- Limit intake of fats and oils high in saturated and/or *trans* fatty acids, and choose products low in such fats and oils.
- Consume less than 10 percent of calories from saturated fatty acids
- Consume less than 300 mg/day of cholesterol
- Keep *trans* fatty acid consumption as low as possible
- When selecting and preparing meat, poultry, dry beans, and milk or milk products, make choices that are lean, low-fat, or fat-free.



# DIETARY GUIDELINES FOR AMERICANS, 2005

## KEY RECOMMENDATIONS FOR THE GENERAL POPULATION

### 6. Carbohydrates

- Choose fiber-rich fruits, vegetables, and whole grains often.
- Choose and prepare foods and beverages with little added sugars or caloric sweeteners.
- Reduce the incidence of dental caries by practicing good oral hygiene and consuming sugar- and starch-containing foods and beverages less frequently.

### 7. Sodium and Potassium

- Consume less than 2,300 mg (approximately 1 teaspoon of salt) of sodium per day.
- Choose and prepare foods with little salt. At the same time, consume potassium-rich foods, such as fruits and vegetables.



# DIETARY GUIDELINES FOR AMERICANS, 2005

## KEY RECOMMENDATIONS FOR THE GENERAL POPULATION

### 8. Food Safety

- To avoid microbial food borne illness:
  - Clean hands, food contact surfaces, fruits, and vegetables. Meat and poultry should not be washed or rinsed.
  - Separate raw, cooked, and ready-to-eat foods while shopping, preparing, or storing foods.
  - Cook foods to a safe temperature to kill microorganisms.
  - Chill (refrigerate) perishable food promptly and defrost foods properly.
  - Avoid raw (unpasteurized) milk or any products made from unpasteurized milk, raw or partially cooked eggs or foods containing raw eggs, raw or undercooked meat and poultry, unpasteurized juices, and raw sprouts.



# PHYSICAL ACTIVITY

- Occupational work
  - Carpentry, construction, waiting tables, farming
- Household chores
  - Washing floors or windows, gardening, or yard work
- Leisure time activities
  - Walking, skating, biking, swimming, playing Frisbee, dancing, softball, tennis, football, aerobics



# HOW MUCH PHYSICAL ACTIVITY A DAY?

The 2005 Dietary Guidelines for Americans recommend the following for adults:

**To reduce the risk of chronic diseases in adulthood:**

Engage in at least 30 minutes of moderate-intensity physical activity, above usual activity, at work or home on most days of the week.

**To help manage weight and prevent gradual, unhealthy weight gain in adulthood:** Engage in approximately 60 minutes of moderate-to vigorous-intensity activity on most days of the week while not exceeding caloric intake requirements.

**To sustain weight loss in adulthood:**

Participate in at least 60 to 90 minutes of daily moderate- to vigorous-intensity physical activity while not exceeding caloric intake requirements. (Some may need to contact their healthcare provider before participating in this level of activity.)



# INCREASING PHYSICAL ACTIVITY

You can increase your physical activity by taking small steps to change what you do everyday.

<b>If you normally...</b>	<b>Then try this instead!</b>
Park as close as possible to the store	Park farther away
Let the dog out back	Take the dog for a walk
Take the elevator	Take the stairs
Have lunch delivered	Walk to pick up lunch
Relax while the kids play	Get involved in their activity

# HOW MANY CALORIE AM I BURNING ?

## CALORIES BURNED/HOUR OF ACTIVITY

Activity	45 kg	68 kg	90 kg
Bicycling, 6 mph	160	240	312
Bicycling, 12 mph	270	410	534
Jogging, 7 mph	610	920	1,230
Jumping rope	500	750	1,000
Running, 5.5 mph	440	660	962
Running, 10 mph	850	1,280	1,664
Swimming, 25 yds/min	185	275	358
Swimming, 50 yds/min	325	500	650
Tennis singles	265	400	535
Walking, 2 mph	160	240	312
Walking, 3 mph	210	320	416
Walking, 4.5 mph	295	440	572



# BEFORE BEGINNING AN EXERCISE PROGRAM

You should check with your doctor before beginning an exercise program if you:

- Are a man older than age 40 or a woman older than age 50
- Have had a heart attack
- Have a family history of heart-related problems before age 55
- Have heart, lung, liver or kidney disease
- Feel pain in your chest, joints, or muscles during physical activity
- Have high blood pressure, high cholesterol, diabetes, arthritis, osteoporosis, or asthma
- Have had joint replacement surgery
- Smoke
- Are overweight or obese
- Take medication to manage a chronic condition
- Have an untreated joint or muscle injury, or persistent symptoms after a joint or muscle injury
- Are pregnant
- Unsure of your health status.

