Obesity Pandemic in Jordan out of Control:
The Nexus Between Eating Practices & Physical Activity

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University of Jordan, 2010

Global prevalence

Over wt & Obese

2015: 2.3
2005: 1.6

Clinical Obesity

2015: 0.7
2005: 0.4
Obesity: Facts & Figures

16% of All Children & Teens Overweight

U.S. Adults (BMI ≥30)

<table>
<thead>
<tr>
<th>Category</th>
<th>1991</th>
<th>1996</th>
<th>2004</th>
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</thead>
<tbody>
<tr>
<td>No Data</td>
<td>&lt;10%</td>
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<td>10%–14%</td>
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<td>≥25%</td>
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Obesity: Facts & Figures

- 1991
- 1996
- 2004

U.S. Adults (BMI ≥30)

No Data <10% 10%–14% 15%–19% 20%–24% ≥25%

H. Al-Domi
The University of Jordan, 2010
# Obesity: Facts & Figures

**Adults - (BMI ≥30)**

<table>
<thead>
<tr>
<th>Age groups (years)</th>
<th>Men (%)</th>
<th>Women (%)</th>
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<tbody>
<tr>
<td></td>
<td>20-29</td>
<td>30-39</td>
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<td></td>
<td>8.4</td>
<td>15.8</td>
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<tr>
<td>Kuwait</td>
<td>32.1</td>
<td>35.8</td>
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<td>Jordan</td>
<td>17.8</td>
<td>27.9</td>
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<td>5.1</td>
<td>11.0</td>
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<tr>
<td>Kuwait</td>
<td>29.2</td>
<td>45.3</td>
</tr>
<tr>
<td>Jordan</td>
<td>25.9</td>
<td>56.0</td>
</tr>
</tbody>
</table>

**Infants <6 months = 7.1%**
Obesity in Jordan: A Pandemic
Adults - (BMI \geq 30)

- 39.8% Obese
- 42% Overweight
- 18.2% Normal

52% overweight and obese
Aetiology: A Multi-factorial Complex Crossing Point

Genetic (25-40% of all cases)

We do not yet know with certainty what it is that is inherited

Genetic (25-40% of all cases)

Age
Gender
Drugs
Hormones
Alcohol
Sleeping
Stress
Obesity
Diet
Eating Behaviour
Physical Activity
iatrogenic
Evolution & Obesity

Hunter- gatherer  Leptin [Thin] gene  Affluent Societies

Feast & Famine

? Have we CHANGED

Feasts

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Causes of Obesity “McDonaldization”

DOUBLE Kcal for the SAME Price

Yesterday: 210 Kcal

Today: 610 Kcal

400 Kcal Difference = Walk 2 hrs & 40 mins
Causes of Obesity “Nintendo-nisation”

↑ Ready-to-Eat Snacks / ↓ Physical Activity
Causes of Obesity “Coca-colonization”

↑ Simple CHO, Empty ↑ Kcal.
Causes of Obesity “Automation”

↑ Time saving / ↓ Energy expenditure
Hippocrates
Father of Medicine
(460 - 377 BC)

Obesity

“Persons who are naturally fat are apt to die earlier than those who are slender”

(ما ملأ ابن آدم وعاءً شراً من بطنه. يحسب ابن آدم لقيمته يقمن صلبه، فإن كان لا بد فاعلاً فثلث لطعامه وثلث لشرابه وثلث لنفسه)
[رواه الترمذي].

وكلوا واشربوا ولا تسترقوا
[الأعراف: 13].
Body Fat Distribution: Waist Measurement

Women

(cm) >88 cm Increased risk

(80 cm) >88 cm Increased risk

Men

(90 cm) >102 cm Increased risk

Waist Measurement OR BMI?

Lancet; 1998; 351:853-6

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Visceral Obesity & Health

Subcutaneous

Visceral

Retroperitoneal
BMI & Health

- Very low BMI increases risk
- Low risk
- Moderate risk
- High risk
- Very high risk

Body mass index (kg/m²)

Mortality rate
Health Risks Associated with Obesity (WHO 1998)

- Greatly Increased (RR 2-3)
  - Type 2 diabetes
  - Gallbladder disease
  - High blood fats
  - Metabolic Syndrome
  - Infertility
  - Sleep apnea

- Moderately Increased (RR 2-3)
  - CHD
    - Hypertension
    - Osteoarthritis
    - Gout

- Mildly Increased (RR 1-2)
  - Cancer
    - ↑ Anaesthetic risk
    - Polycystic ovary syndrome

Obesity is a serious potentially life-threatening condition NOT an affliction brought on by lack of self-control.
Obesity & Life Expectancy

- Men
  - Overweight: 5.8 yrs.
  - Obese: 3.1 yrs.

- Women
  - Overweight: 7 yrs.
  - Obese: 3.3 yrs.
Obesity-Associated Annual Hospital Costs

For children

Tripled

S P E N T  A N N U A L L Y

1979-1981: $35 million

1997-1999: $127 million
Get NO free-time Physical Activity AT ALL.

23% Children

40% Adults
**Benefits of 10% Weight Loss**

| Mortality                      | >20% fall in total mortality  
|                               | >30% fall in diabetes related deaths  
|                               | >40% fall in obesity related deaths  
| Blood pressure                | Fall of 10mmHg systolic & diastolic pressure  
| Diabetes                      | 50% fall in fasting blood glucose  
| Lipids                        | 10% dec. in total cholesterol  
|                               | 15% dec. in LDL  
|                               | 30% dec. in triglycerides  
|                               | 8% inc. in HDL  

*Jung 1997*
Success in Weight Management!
Success in Wt management: Early Theories

- **Fat cell theory:**
  
  # & size

- **Set point theory:**
  
  A “set weight” that body tries to maintain.

Once gained, FAT cells never actually lost!

- The number of fat cells increases in normal growth
- In obese people fat cells are larger than in lean people
- Fat cells divide when they reach a certain size
- With fat loss, the size of the cells, but not the number, decreases

Childhood

Adolescence

Pregnancy
Obesity Pandemic: What Can We Do!

- **Obese**
  - Eating Behavior Modification
  - Physical Activity

- **Overweight**
  - Eating Behavior Modification
  - Physical Activity

- **Normal**
  - Eating Behavior Modification
  - Physical Activity
5

30min / day
5x / wk

5x / wk

2

- Adequacy
- Balance
- Moderation
- Variety
- Caloric Control
- Nutrient Density
Food Tips

- How often should one eat?
- When should one eat?
- How should one eat?
- What is the Plate Model?
- Less Fats?
- More fiber?
- Which beverage should you drink?
TIP:
If you reduce by

ONLY 1 hour

of TV TIME,

you will increase their life expectancy by

2-3 years