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(IFA Melbourne, 4 May 2010)
Rats on 40% Food Restriction live 20% longer (McCay 1935)
Food Restriction in Humans
(no life-long FR studies)

OKINAWANS are longest lived people on earth - eating 40% less food than Americans for half their life and live only 4 years longer

Thus FR may add ONLY 4 YEARS to human life
Life Expectancy at Birth, 1891 - 2051
Life Expectancy has Increased by 30 years since 1900 due to

- better public health, medicine & diet
- reduction of infectious diseases
- improved sanitation
- reduction of infant/mother mortality
- antibiotics and vaccines
- improved nutrition, vitamins, less fat
- chemotherapy to treat heart disease, etc
- by-pass surgery of heart, etc
Changes in Diet Plus Drugs have Increased Survival of Elderly

Since 1960

**Calories / day** increased 10%
**BUT** Fat Intake reduced

Fruit and Veg 30% increase
Fish 20% increase

plus medications

BETTER HEALTH & LIFE EXTENDED 10 YR
Overeating in Childhood  25% OverWeight
Reduced Physical Exercise in early 21st Century

20th CENTURY ARTHUR  moderate exercise
  As a child I walked to school (6km/day)
  As an adult I walked to stations & work (10km/day)

21st CENTURY HUMAN  less exercise (halved)
• Almost everyone now uses a car for most trips
• Most sit 2-3 hr/day looking at TV & computer
Since 1960 10% more food, 50% less exercise, NOW 20% OBESE
In early 21st Century
50% Overweight and 20% Obese

Overeating and Less Exercise raise

Blood pressure → Heart Disease
LDL Blood cholesterol → Heart Disease
Blood sugar → Diabetes

Increases mortality

BUT Over last 50 years Medications & Diet reduced these effects of Overeating/less EX
BMI and Risk of Death in Men who never smoked (Adams et al 2006)
Years of Life Lost by Overweight and Obesity

70% Australians are now overweight /obese (the problem of the early 21st century)

Middle Aged Non-Smokers (Adams 2006)
- overweight: 3 years lost
- obesity: 7 years lost
- severe obesity: 13 years lost

140 Australians die each day from obesity
Killer Lifestyles
(van Dam et al, BMJ 2008)

Nurses Health Study 77,782 women 34-59 yr studied for 24 years (Longest study)

55% mortality due to 4 killer lifestyles
- smoking (28% deaths)
- overweight (14% deaths)
- lack of physical exercise (17% deaths)
- poor diet (low veg and fruit) (13% deaths)
Survival of 72 yr Olds to 90yr (Yates et al 2008)

2357 healthy men aged 72yr

54% survived to 90 years in absence of

- smoking
- diabetes
- obesity
- hypertension
- sedentary lifestyle
Eat Healthy Diets

• **Fruit and Vegetables**
  apples, pears, citrus, banana, grapes, lettuce, cucumber, tomatoes, carrots, beet, beans, peas, cabbage

• **Low Fat Milk** with 0.5-1.5% fat, yoghurt (1.5% fat)

• **Wholegrain bread**, oats

• **Salmon**, tuna, herring
Reduce Intake of Less-Healthy Foods

- **Meats**
  - meat, bacon, sausages, cold cuts
- **Fried Foods**
  - fried potatoes, chips
- **Fatty Foods**
  - cheese, butter, margarine, ice cream
- **Carbohydrates**
  - white bread, cookies, sugar
Conclusions

• 40% reduction in food intake in lower animals (eg rat) prolongs life by the equivalent of 20 human years

BUT

Human health and lifespan are influenced by many factors such as infections, diet, physical exercise, overweight, drugs, smoking, etc
Recommendations for a healthy & long life

Establish a Healthy Life Style of

1. Not Smoking
2. Healthy Body Weight
3. Good Diet: Five Vegetables & Fruits / day
4. Moderate Physical Exercise
5. Good Social Life with Happy Friendships
6. Have regular checkups with your doctor to find and treat possible killer diseases
References


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