

GKR Karate International Obesity, Diet & Nutrition

10 things we've got wrong
than a very wrong thing!

Our current belief system

How to lose weight

1) The General Principle

“Eat less/do more”

2) The Calorie Formula

“One pound of fat contains 3500 calories, so to lose 1lb a week you need a deficit of 500 calories a day.” (BDA)

Myth 1: Energy in = energy out

The Laws of Thermodynamics

- 0) If object A is in thermal equilibrium with B and B is in thermal equilibrium with C then...
- 1) In a closed system, in thermal equilibrium, energy can neither be created nor destroyed. It shall be conserved.
- 2) Entropy – the law of common sense
- 3) As a system approaches absolute zero, all processes cease & the entropy of the system approaches a minimum value

Myth 1: Energy in = energy out

The errors we have made

- 1) Law 1 – Energy in does not equal energy out
- 2) Law 2 – A calorie is not a calorie
- 3) There is no direction of causation in the laws of thermodynamics
- 4) Energy in & Energy out are dependent, not independent, variables
- 5) We flit between weight and energy as if they are interchangeable

Myth 2: 1lb = 3,500 calories

How close can we get?

1) 1lb = 454g

2) 1g fat = 9 calories

3) 1lb adipose tissue = 87% lipid



$1\text{lb} = 454\text{g} \times 9\text{cals} \times 87\% = 3,555\text{ calories}$

Refs 79, 80

Myth 2: 1lb = 3,500 calories

“1lb does not equal 3,500 calories...”

1) 1lb = 454g

2) 1g fat = 8.7-9.5 calories (*)

3) 1lb adipose tissue = 72-87% lipid



1lb = 454g x 8.7cals x 72% = 2,843 calories (+84)

1lb = 454g x 9.5cals x 87% = 3,752 calories (-26)

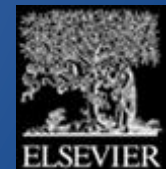
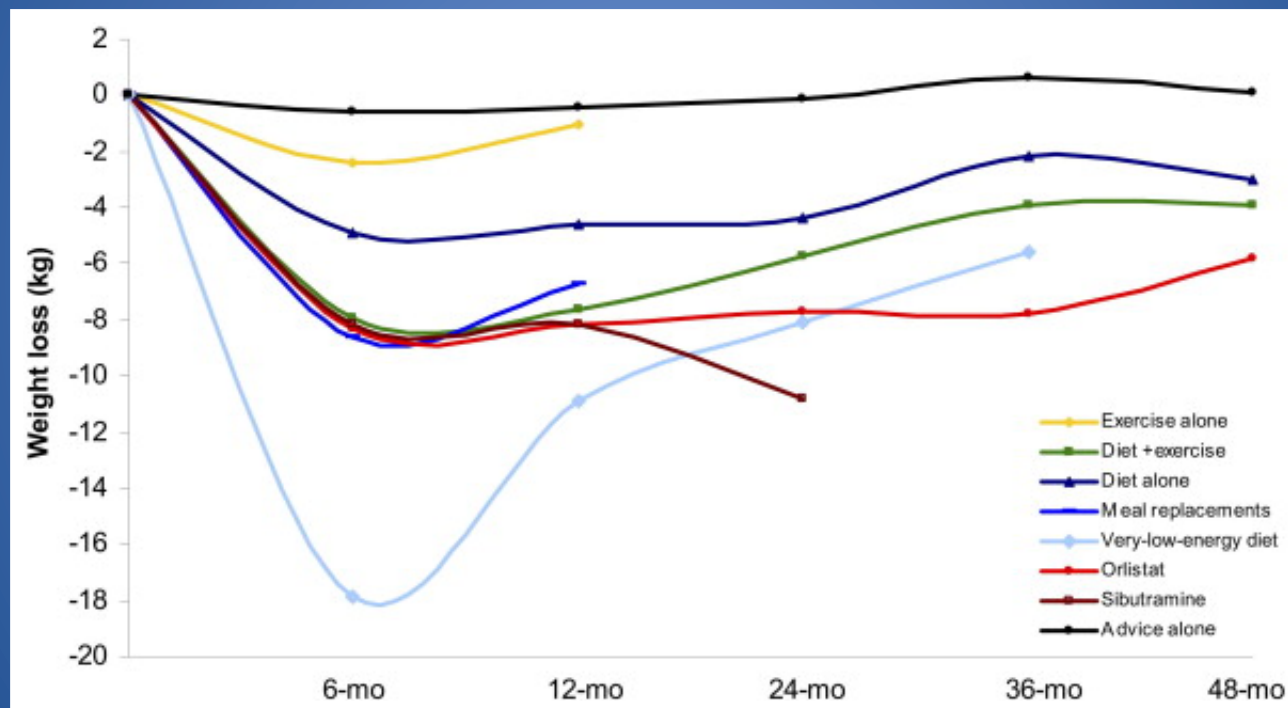
Myth 3: 3,500 cal deficit -> 1lb fat loss

The seminal obesity studies since 1917

- Benedict (1917)
- Keys (1945)
- Stunkard & McLaren Hume (1959)
- Bray (1970) “The myth of diet in the management of obesity.”
- Liebel & al (1995) “No current treatment for obesity reliably sustains weight loss.”
- Franz (2007)

Myth 3: 3,500 cal deficit -> 1lb fat loss

Franz (2007)

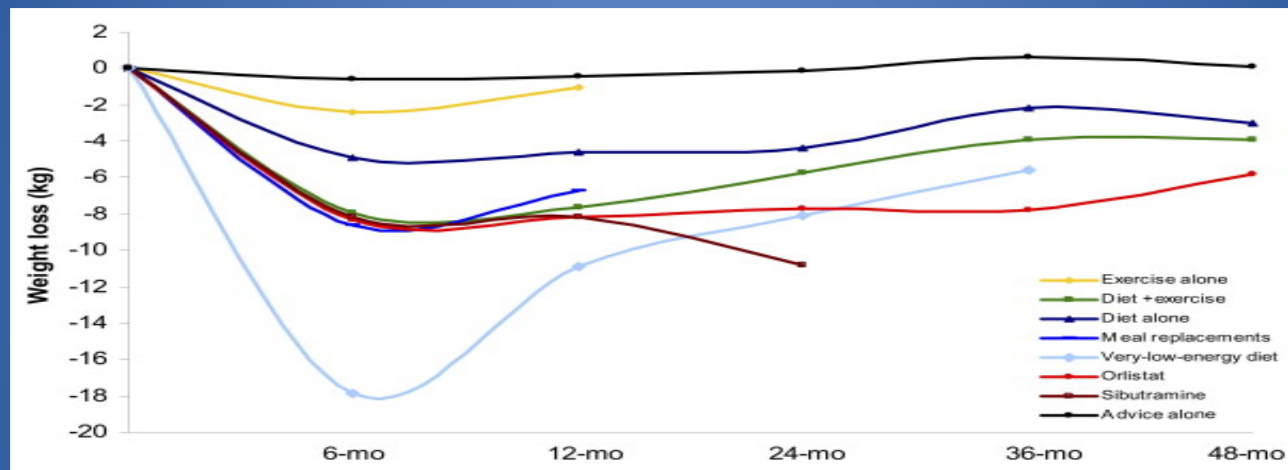


Ref 99

www.zoeharcombe.com
www.theobesityepidemic.org

Myth 3: 3,500 cal deficit -> 1lb fat loss

Franz (2007)

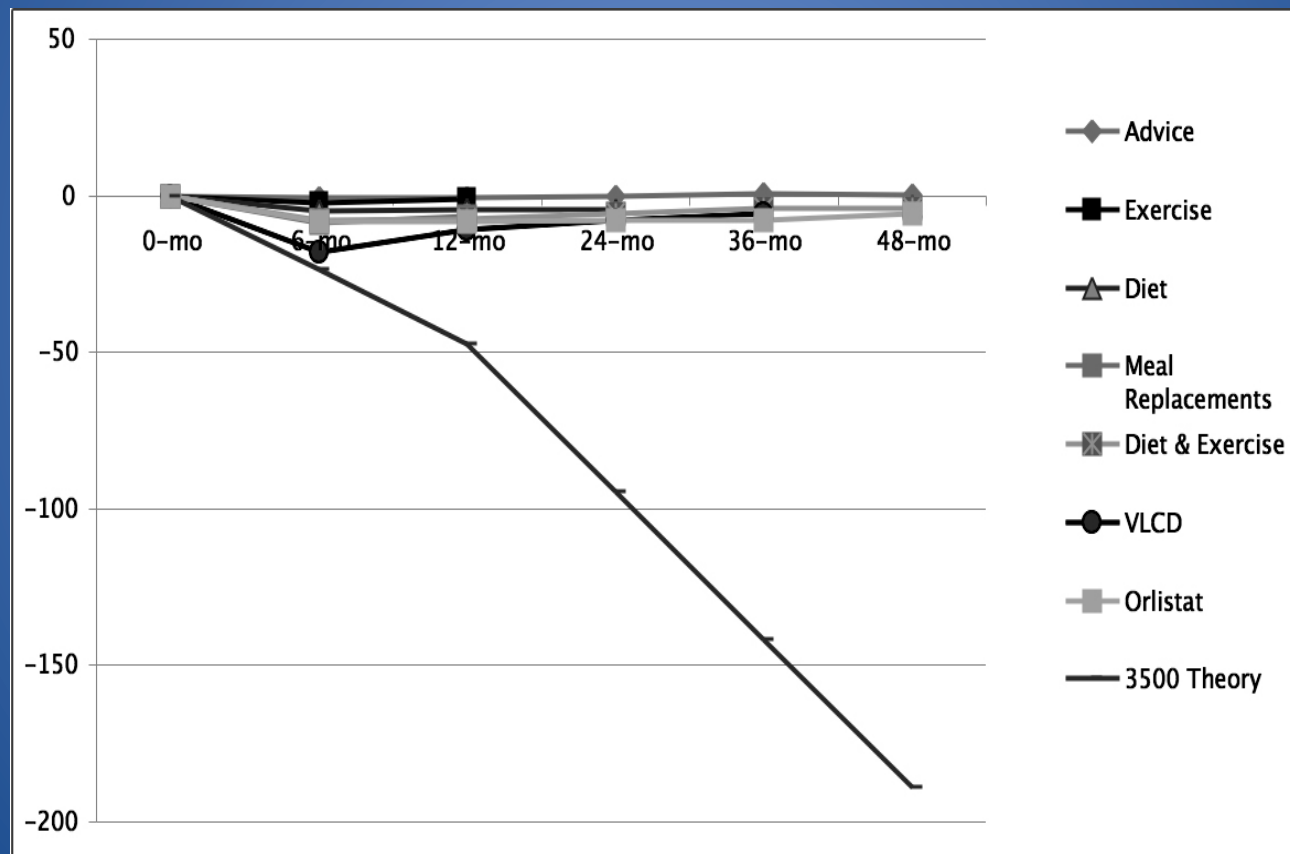


-23.6kg (52lbs)

-47.2kg (104lbs)

Myth 3: 3,500 cal deficit -> 1lb fat loss

Franz vs calorie formula



-94.4kg

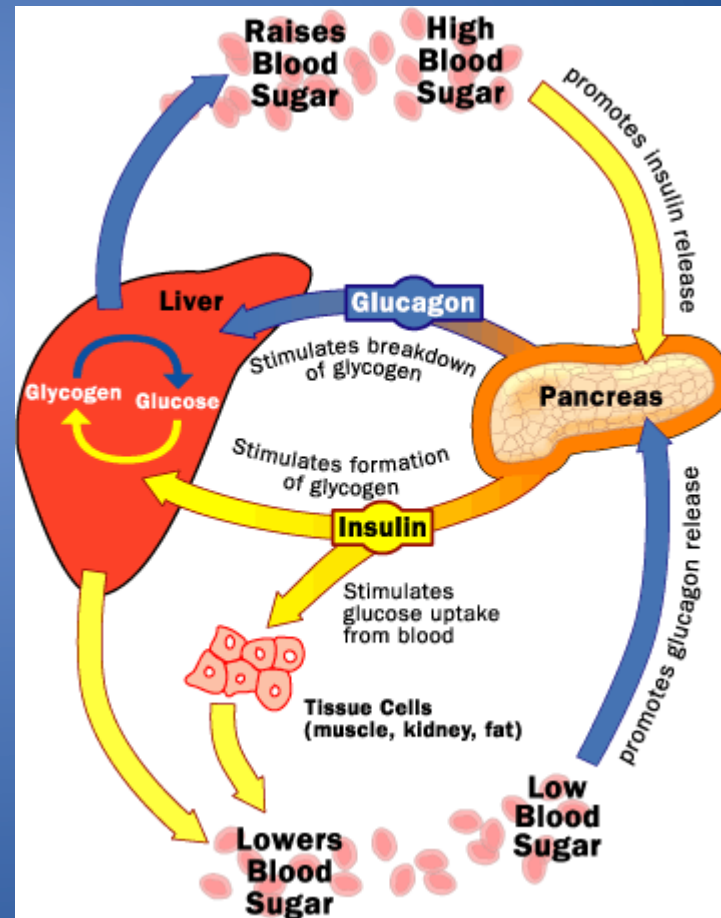
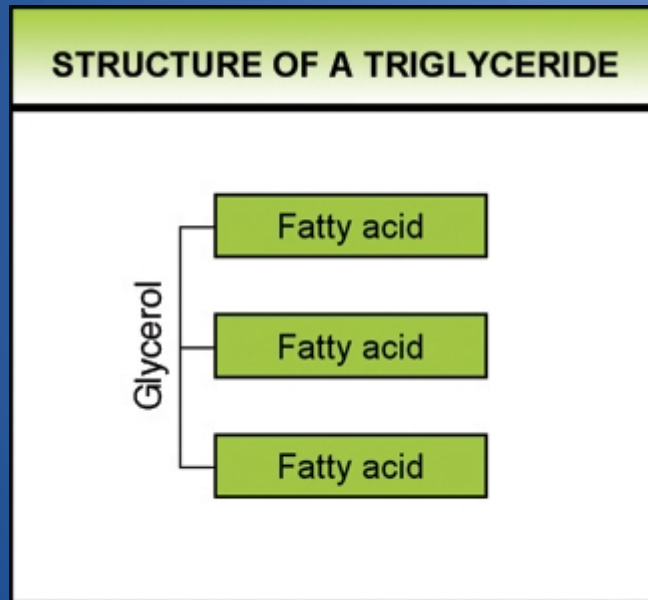
-188.8kg (vs. 3-6kg actual)

-208lbs

-416lbs

Myth 4: Weight is about calories

Storing & un-storing fat



Myth 5: Eating less will make us weigh less

The body is not a cash machine for fat

Eat less (500)



Do more (200)

BMR 1,500 cal

BMR+ 500 cal

700/3,500 = Lose 1/5th lb fat?

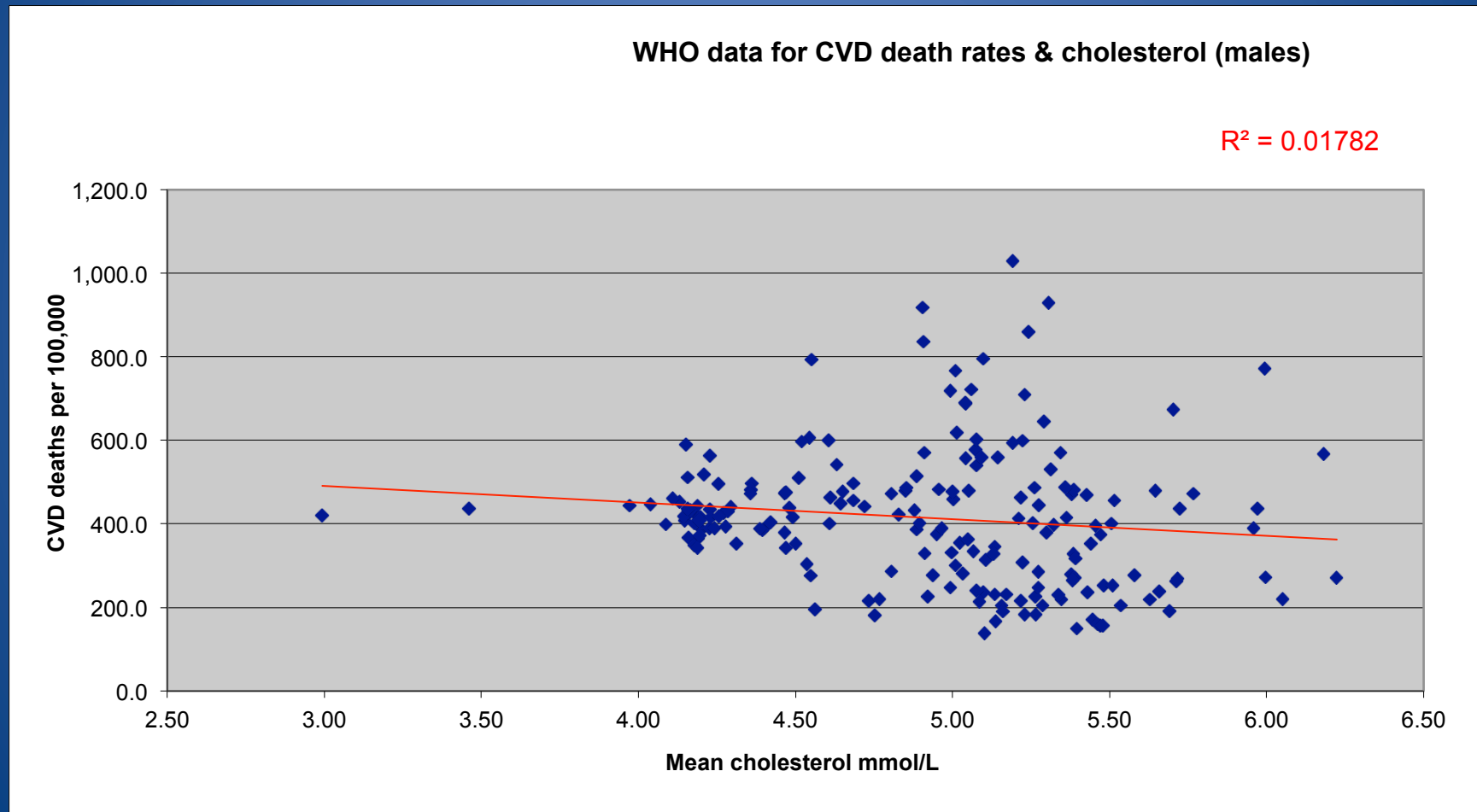
Myth 6: Cholesterol is trying to kill us

The truth

- 1) Cholesterol is utterly vital for everything from your very existence to brain function to digestion to hormones to sex. You die instantly without it.
- 2) Cholesterol is so vital that the body makes it.
- 3) The formula for cholesterol is $C_{27}H_{46}O$. There is no good or bad version.
- 4) The cholesterol blood test can only measure total cholesterol & HDL. There is one equation, 4 unknowns, 2 of which can be measured.
Total cholesterol = LDL + **HDL** + Triglycerides (VLDL)/5
- 5) Low cholesterol is associated with higher mortality.
High cholesterol is associated with lower mortality.
- 6) Follow the money: £/\$ - food & drink & drugs (Lipitor alone \$12 billion).

Myth 6: Cholesterol is trying to kill us

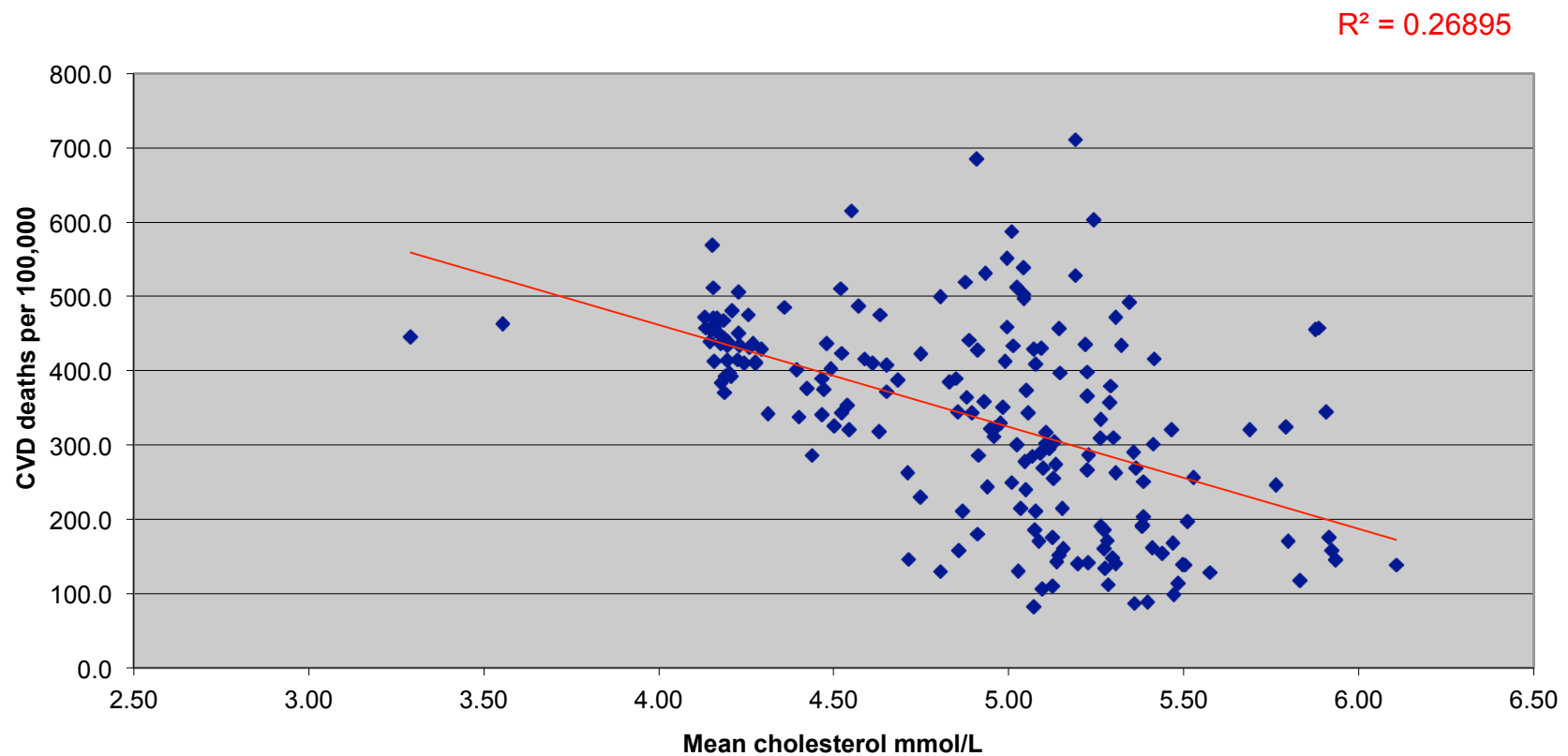
Male cholesterol levels & heart deaths



Myth 6: Cholesterol is trying to kill us

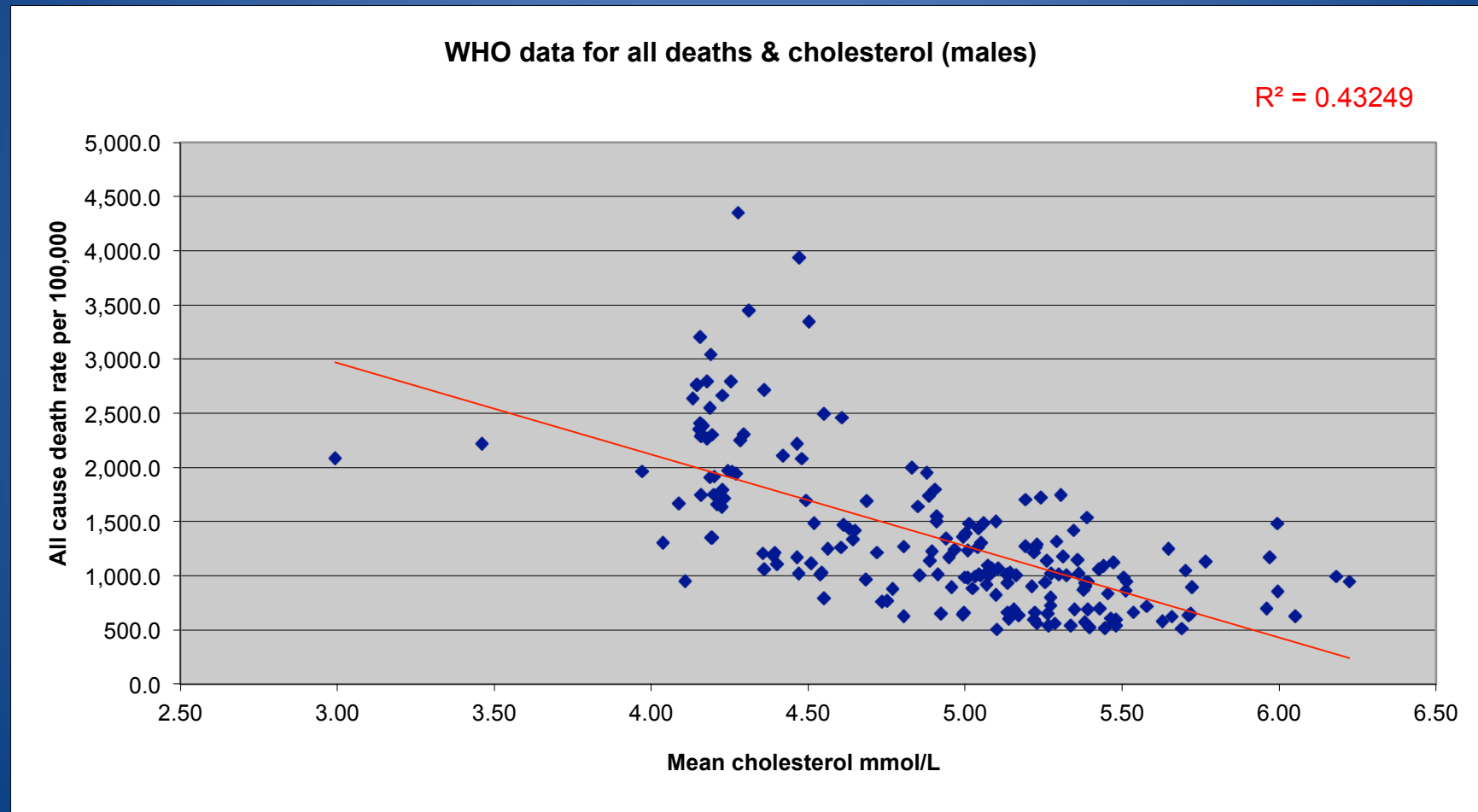
Female cholesterol levels & heart deaths

WHO data for CVD death rates & cholesterol (females)



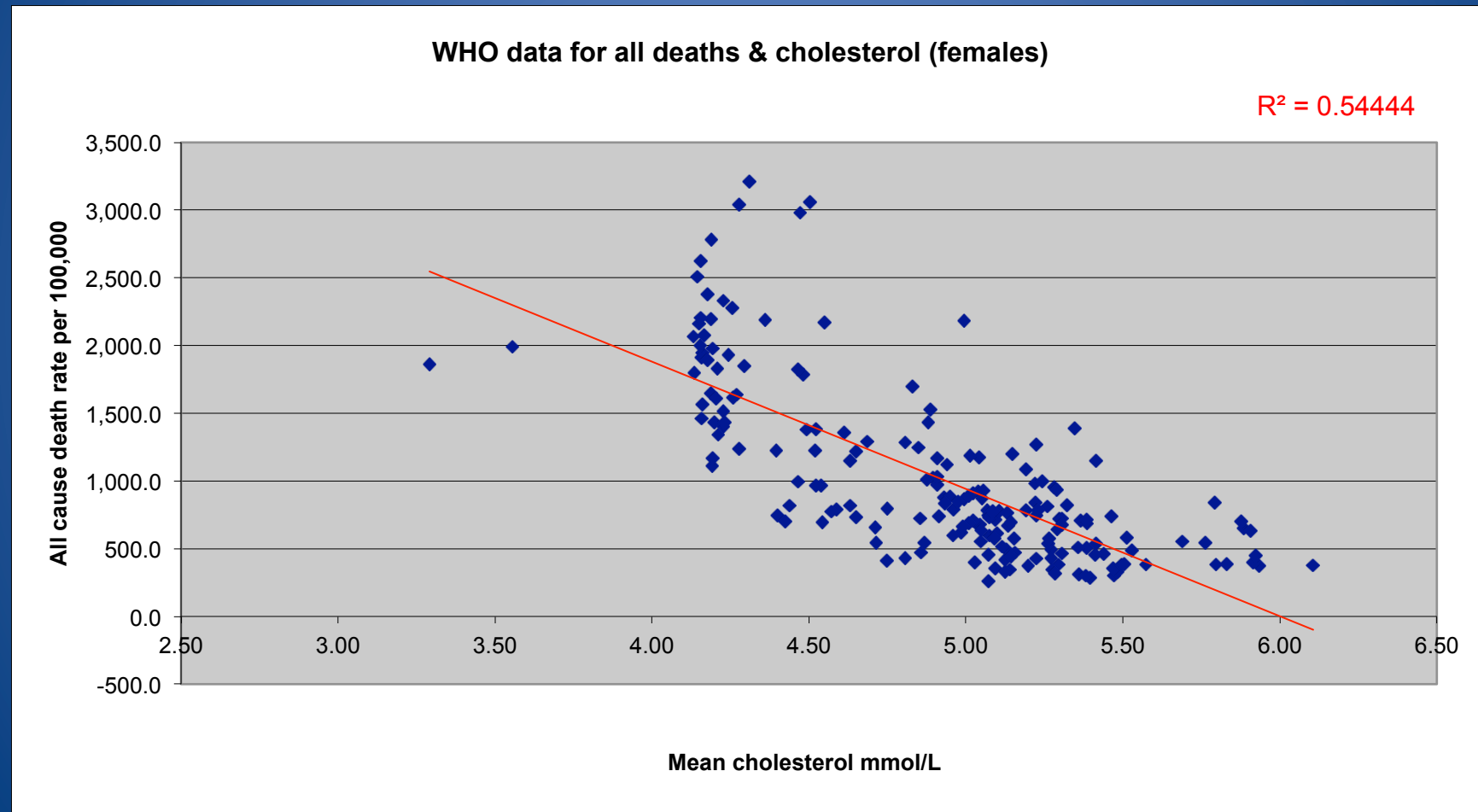
Myth 6: Cholesterol is trying to kill us

Male cholesterol levels & all deaths



Myth 6: Cholesterol is trying to kill us

Female cholesterol levels & all deaths



Myth 7: Saturated fat is trying to kill us

Fats, carbs & not knowing one from the other

	FSA/NHS list of Saturated Fat	What this really is
A	Fatty meats & meat products, such as sausages & pies	1) Processed food 2) Unsaturated fat Real or processed = 60% unsaturated
B	Butter, ghee & lard	Butter 33%, Lard 60% unsaturated fat
C	Cream, soured cream, crème fraîche & ice cream	Cream = calcium & fat vitamins Ice cream = processed carb
D	Cheese, particularly hard cheese	Vital source of calcium & fat vitamins
E	Biscuits, cakes & pastries	1) Processed carbs 2) Unsaturated fat
F	Some savoury snacks	1) Processed carbs 2) Unsaturated fat
G	Sweets & chocolate	1) Processed carbs 2) Unsaturated fat
H	Coconut oil, coconut cream & palm oil	World per capita consumption = 1/8 of 1 coconut p.a.!

Myth 7: Saturated fat is trying to kill us

The study has never been done

- “There has been no controlled clinical trial of the effect of decreasing dietary intake of saturated fatty acids on the incidence of coronary heart disease nor is it likely that such a trial will be undertaken.” (COMA, 1984).
- “It has been accepted by experienced coronary disease researchers that the perfect controlled dietary trial for prevention of coronary heart disease has not yet been done and we are unlikely ever to see it done.” (Truswell, 1994).
- “The ideal controlled dietary trial for prevention of heart disease has not yet been done and it is unlikely ever to be done.” (FSA, 2009).

Myth 8: We must eat 5-a-day

Once upon a time...

- 1) When – 1991
- 2) Where – California
- 3) Who – American National Cancer Institute & Produce for better health foundation (25 co.s)
- 4) Why – Cancer? or Follow the money!
- 5) So what? Fruit & veg; Fruit & nutrition; Fruit & obesity; Fruit & treating people like fruitcakes!

Myth 9: Our advice is trustworthy

American Dietetic Association



Myth 9: Our advice is trustworthy

Dieticians Association of Australia



Ref: DDA web site

www.zoeharcombe.com
www.theobesityepidemic.org

Myth 9: Our advice is trustworthy

The British Nutrition Foundation



Refs 322, 323



The co-operative



Sainsbury's

Myth 10: This is healthy eating

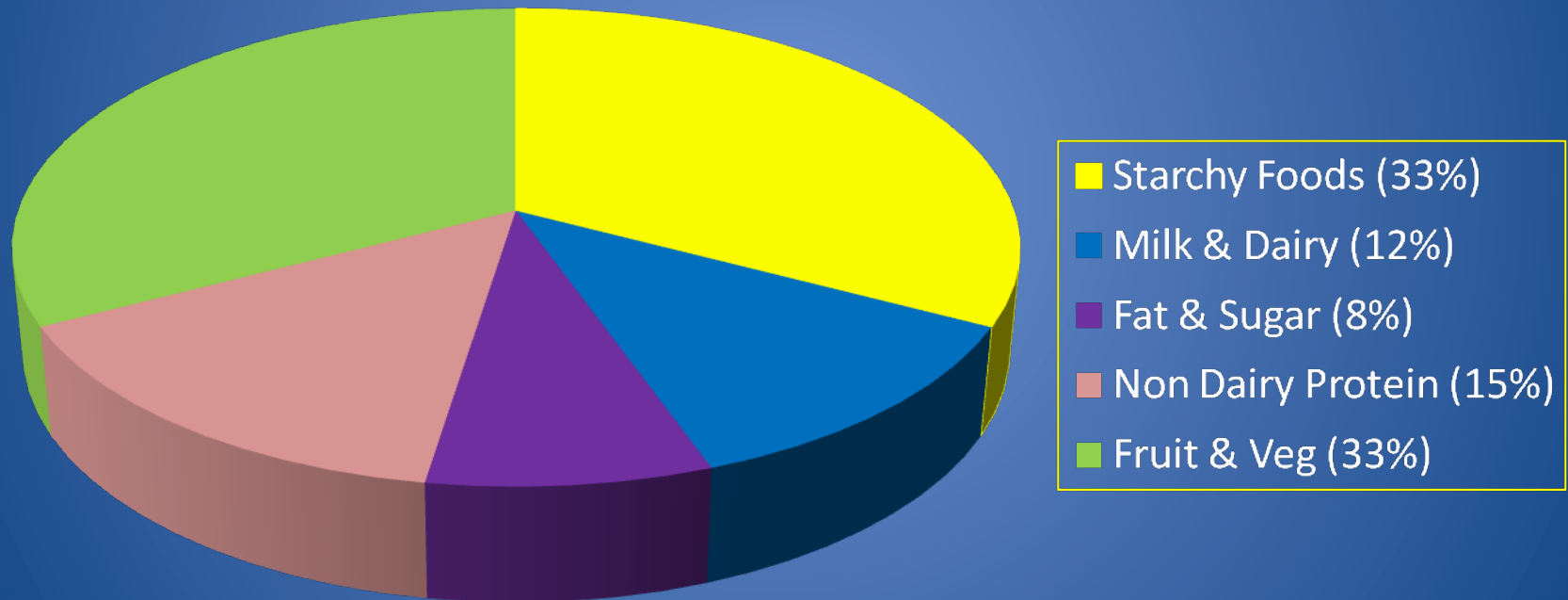
The eatbadly plate



Myth 10: This is healthy eating

The eatbadly plate

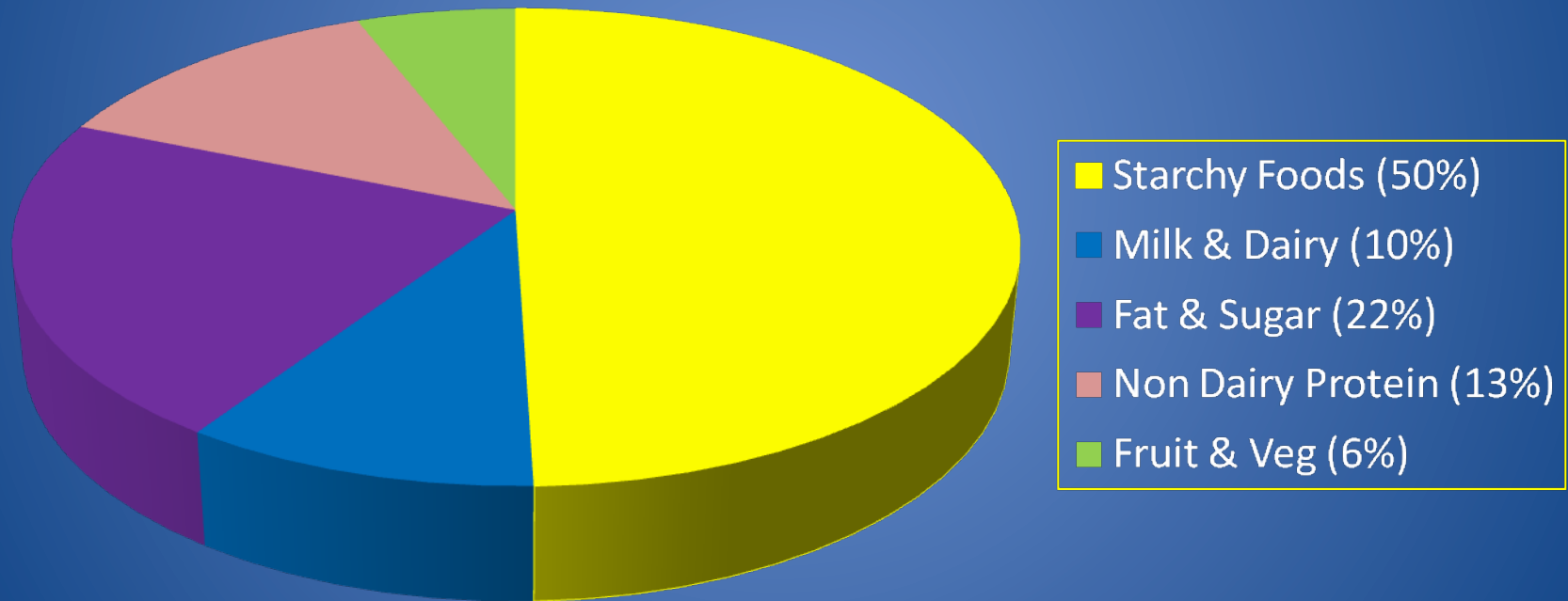
Proportions by weight



Myth 10: This is healthy eating

The eatbadly plate

Proportions by energy intake

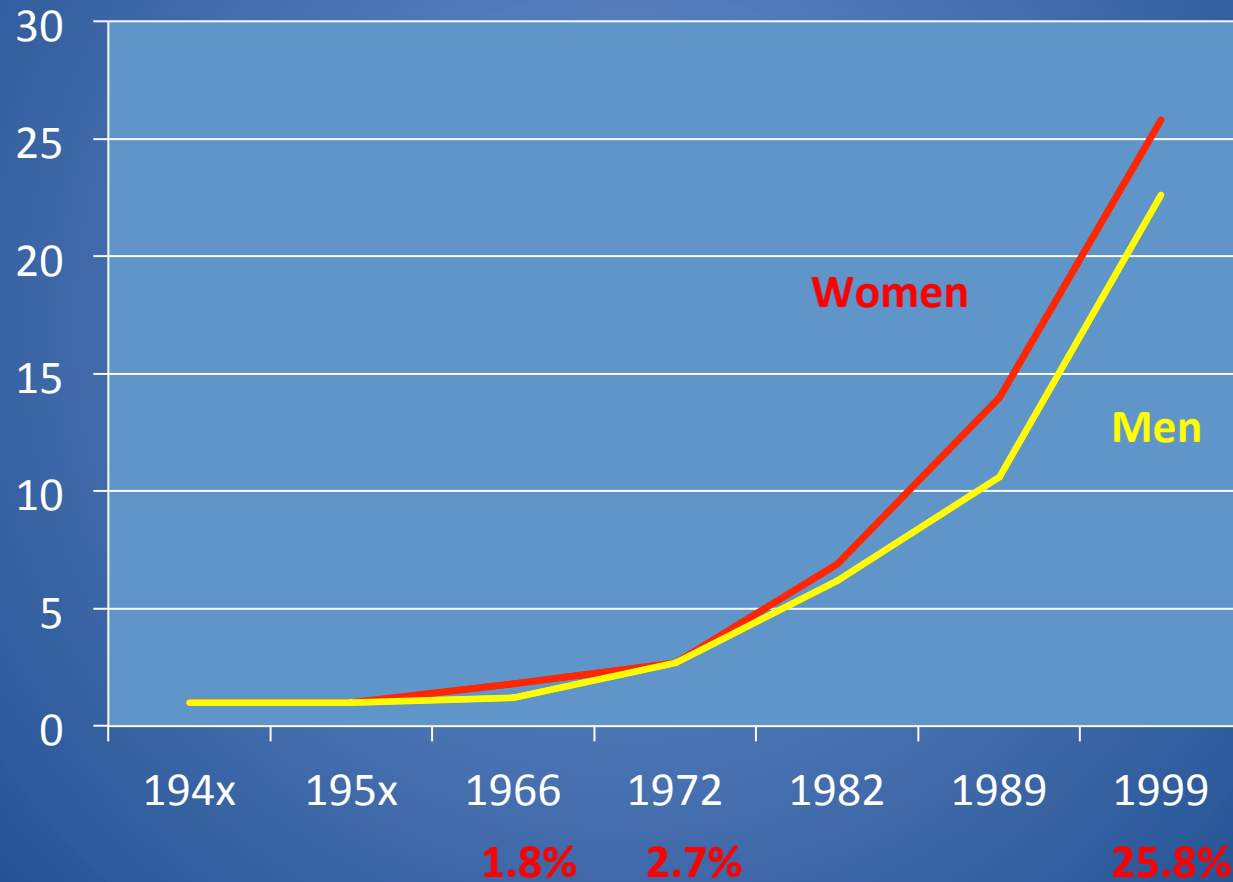


Myth 10: This is healthy eating

- Sugar (400 calories/day; 731g/week)
- Flour (730 calories/day; 1,423g/week)
- 1,536 processed food calories/day
- Vitamins A (50%); D (25%); E (66%); K (?!)
- Calories 2,290 (1975) -> 1,690 (1999): -62.6lbs
- **Down:** Real meat, eggs (1/2), butter (1/4), whole milk (1/4), vegetables (fresh green)
- **Up:** Cereals, cereal products, confectionery & ice cream (3x), fruit & fruit products, processed meat, processed potatoes (3x), soft drinks (6x)

The result of all the errors

The Obesity Epidemic (UK)



Ref 3

www.zoeharcombe.com
www.theobesityepidemic.org

What happened c. 1980?

We did a U-Turn in our diet advice

“The previous nutritional advice in the UK to limit the intake of all carbohydrates as a means of weight control now runs counter to current thinking and contrary to the present proposals for a nutrition education policy for the population as a whole... The problem then becomes one of achieving both a reduction in fat intake to 30% of total energy and a fall in saturated fatty acid intake to 10%.”

1983 Proposals for nutritional guidelines for health education in Britain
(NACNE)

So, how do we lose weight?

The three golden rules

- 1) Eat food ...
- 2) ... three times a day
- 3) Manage carbs

Agree on real food

Agree on vegetables & salads

Animals

Eat food; mostly animals; quite a lot

Grass fed meat/eggs; fish

Some disagreement on dairy/grains

Plants

Eat food; mostly plants; not too much

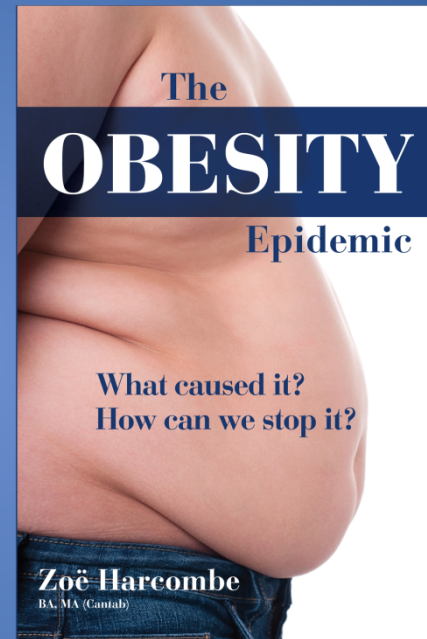
Whole grains, beans, pulses

The final slide

Man & Nature

- 'Civilised' man is the only chronically sick animal on the planet. (Barry Groves)
- Man is the only species clever enough to make his own food...
- ... & stupid enough to eat it.

Thank you!



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