Food Addiction: A new perspective in tackling obesity

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"The unfortunate thing about this world, is that the good habits are much easier to give up than the bad ones"

W. Somerset Maugham
(1874-1965)

English dramatist & novelist

Acknowledgements

Dr Ria Schroder

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25 participants in two ongoing obesity treatment research groups

A basic question

What is the best food advice to give obese patients?

Abstinence vs Moderation?

What foods?

Prevalence of obesity in NZ adults

Source: 2002/03 & 2006/07 NZ Health Surveys, 1997 National Nutrition Survey

Consequences of obesity

- *Metabolic*:
  Insulin resistance, impaired glucose tolerance and type 2 diabetes
  Dyslipidaemia
  - Increased VLDL, triglyceride, increased LDL cholesterol
  - Reduced HDL cholesterol
  - Increased apo B lipoprotein (small dense molecules)

  Fatty liver/non-alcoholic steatohepatitis (NASH)
  Gallstones
  Polycystic ovarian syndrome / infertility in women
- *Cardiovascular*:
  Hypertension
  Coronary heart disease
  Varicose veins
  Peripheral oedema
- *Cancer*:
  Breast
  Endometrium
  Prostate
  Kidney
  Pancreas
  Colon
- *Mechanical*:
  Osteoarthritis
  Spinal complications
  Obstructive sleep apnoea
- *Social*:
  Low self-esteem
  Adverse judgement by society
- *Other*:
  Increased anaesthetic risk
  Increased risk of fractures in children

Source: Essentials of Human Nutrition 3e

Second Expert Report WCRF/AICR: (2007)
Food, Nutrition, Physical Activity & the Prevention of Cancer

Determinants of Obesity

	Decreases risk	Increases risk
Convincing	Physical activity	Sedentary living
Probable	Low energy-dense foods Being breastfed	Energy-dense foods Sugary drinks Fast foods Television viewing

“Behind every addiction is an industry pushing a moreish product”

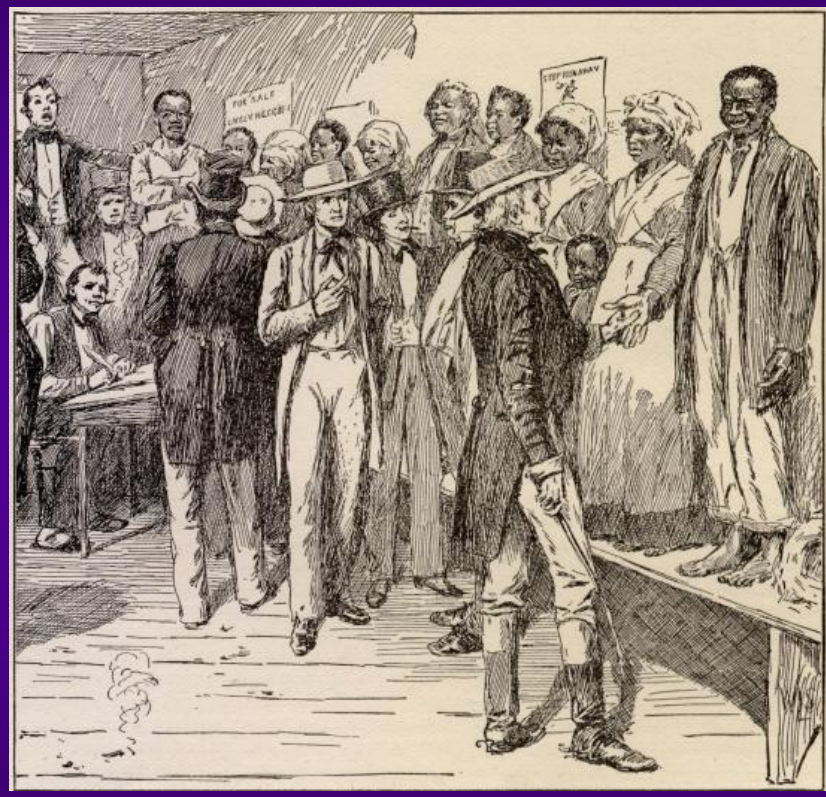
i’m lovin’ it™

Background

- 25% of NZ adults are obese (BMI $\geq$30)
- Devastating effects of the "obesity epidemic" well known
- Lifestyle change is the cornerstone
- Eat less energy-dense foods
- 20 years of moderation advice…
- What about an abstinence/addiction approach?

WHAT IS ADDICTION?

- From the Latin addictus - devotion/attachment
- Outdated term of the 1950's and 1960's, replaced by "dependence" in the 1970's
- Currently undergoing a revival
- "Addiction"
  - patient preference all along
  - neuroscientists' preference
  - DSMIV



Slave Auction in New Orleans

- The increasing prevalence and impact of obesity in our society and the urgent need to develop better therapeutic interventions that help mitigate the pathologically intense drive for food consumption are clear.

- We have an opportunity in DSM-V to recognize a component of obesity as a mental disorder.

(Volkow & O'Brien, AJP 2007)

DSM-IV SUBSTANCE DEPENDENCE

Maladaptive pattern of use with at least three of the following occurring within a 12 month period:

1. Use is often more than intended (quantity or time)
2. Unsuccessful attempts to cut down or control use
3. Much time is spent in use (time +++)
4. Important activities given up or reduced
5. Continued use despite knowledge of associated medical or psychological problems
6. Tolerance (acquired)
7. Withdrawal

Three elements of an addiction approach

- Permanent lifestyle change
- Abstinence as an "addiction interrupter"
- Motivational interviewing

Three elements of an addiction approach

- Permanent lifestyle change

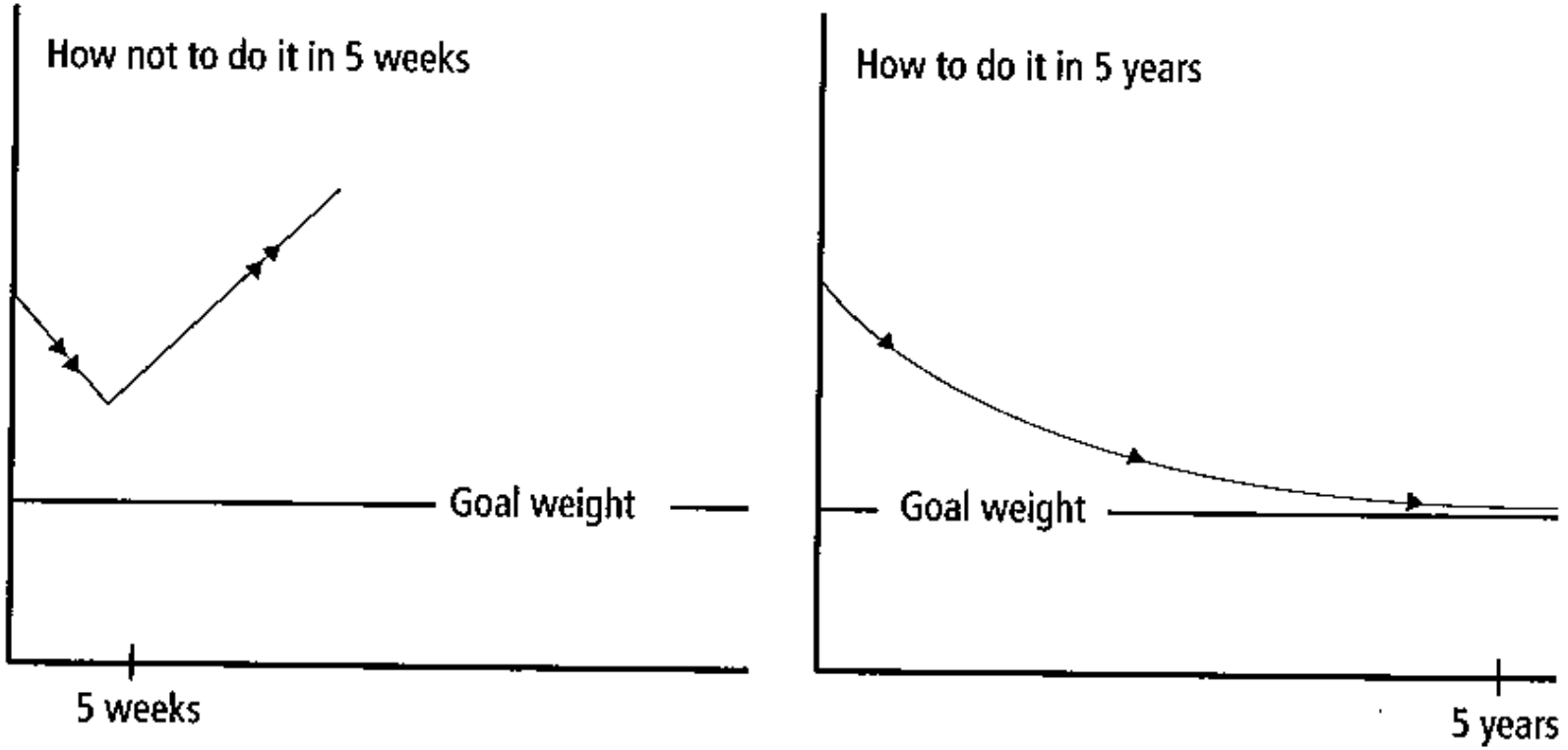


FIGURE 1 Two ways of losing weight

"Change takes time"

Tenzin Gyatso,

HH The 14th Dalai Lama of Tibet (1935–present)

Four Phases to Recovery

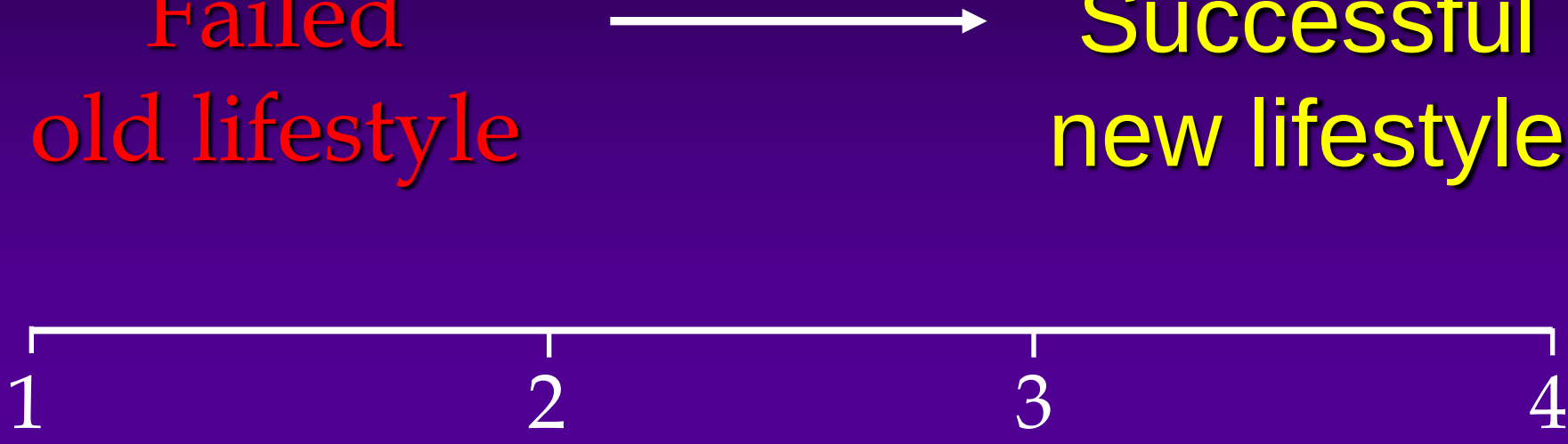
Phase 1 Picking up the pieces from a failed lifestyle
TREATMENT

Phase 2 Assembling a new lifestyle
REHABILITION

Phase 3 Practising the new lifestyle
AFTER-CARE

Phase 4 Living the new lifestyle
SELF-MANAGEMENT

Failed
old lifestyle



Successful
new lifestyle

1 2 3 4

Clinical Mx

Self Mx

Three elements of an addiction approach

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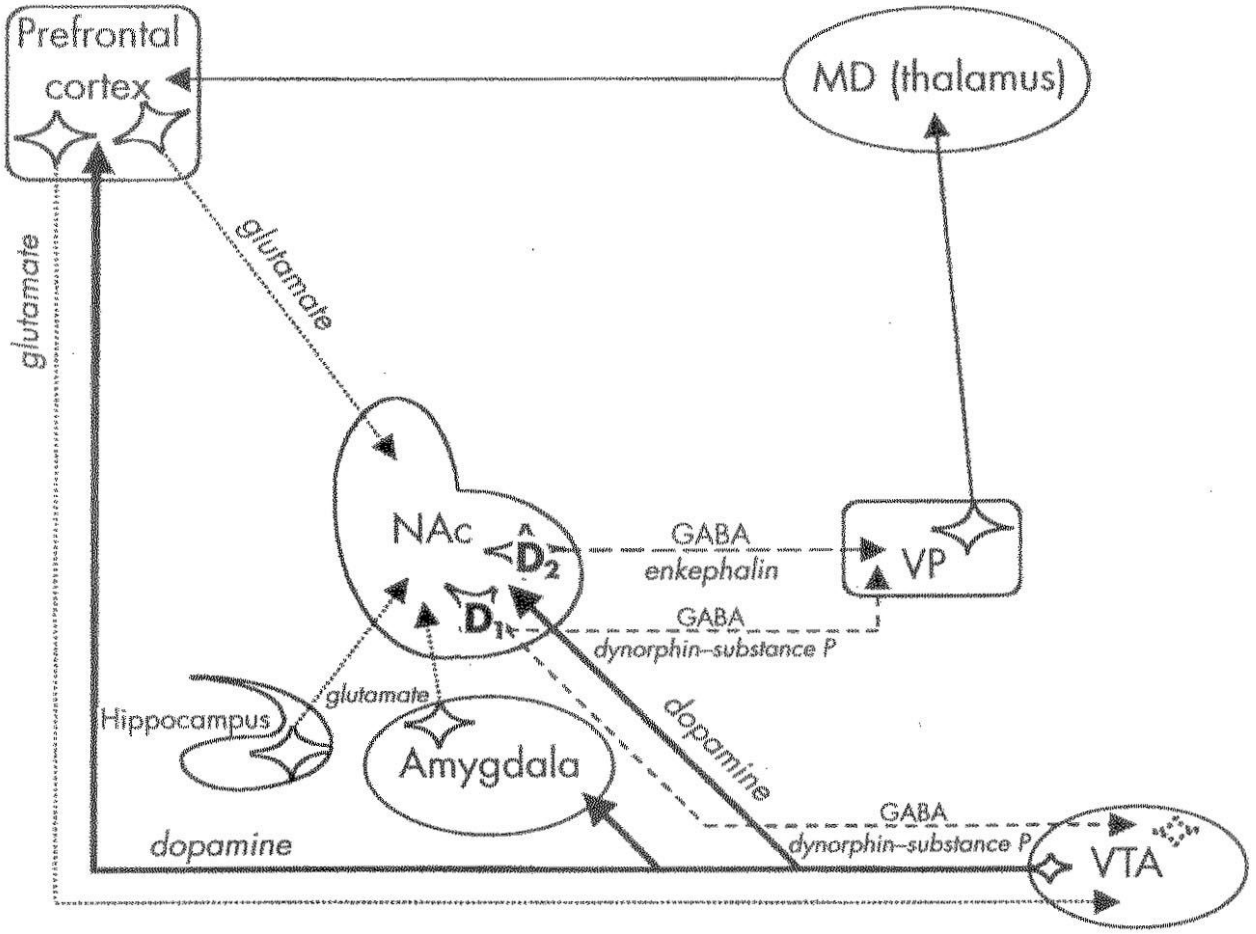
- Abstinence as an “addiction interrupter”

NEURAL CIRCUITRY OF ADDICTION

(Hammer 2002)



Non-essential, energy-dense, nutritionally-deficient (NEEDNT) foods

- Developed by Dr Jane Elmslie using the existing food lists of the Diabetes Society and NZ Heart Foundation as a starting point

COMMON NON ESSENTIAL ENERGY DENSE NUTRITIONALLY DEFICIENT(NEEDNT) FOODS	REPLACE "NEEDNT" FOODS WITH:
1. Alcoholic drinks	Water/Diet soft drinks
2. Biscuits	*
3. Butter (used as a spread or in baking/cooking etc.)	Lite margarine or similar spread or omit
4. Cakes	*
5. Chocolate	*
6. Coconut Cream	Lite Coconut Milk/Coconut Flavoured Lite Evaporated milk
7. Condensed Milk	
8. Cordial	Sugar free cordial
9. Corn chips	*
10. Cream	Natural yoghurt (or flavoured yoghurt depending on use)
11. Crisps	*
12. Desserts	*
13. Doughnuts	*
14. Energy drinks	Water
15. Flavoured milk	Trim, Calcitrim or Lite Blue Milk
16. Food tinned in syrup (even lite syrup!)	Food tinned in juice/artificially sweetened
17. Fried food	Boiled, grilled or baked food
18. Frozen yoghurt	Ordinary yoghurt
19. Fruit juice (except tomato juice and unsweetened blackcurrant juice)	Fresh fruit (apple, orange, pear etc + a drink!)
20. Glucose	Artificial Sweetener
21. High fat (≥ 10g fat per 100g) crackers	Lower fat crackers (≤ 10g fat per 110g)
22. Honey	*
23. Hot chips	*
24. Ice cream	*
25. Jam	*

COMMON NON ESSENTIAL ENERGY DENSE NUTRITIONALLY DEFICIENT(NEEDNT) FOODS	REPLACE "NEEDNT" FOODS WITH:
26. Marmalade	*
27. Mayonnaise	Lite dressings/lite mayonnaise
28. Muesli bars	*
29. Muffins	*
30. Nuts roasted in fat or oil	Dry roasted or raw nuts (≤ 1 handful per day)
31. Pastries	*
32. Pies	*
33. Popcorn with butter	Air popped popcorn
34. Puddings	*
35. Quiches	Crust-less quiches
36. Reduced cream	Natural yoghurt
37. Regular Luncheon sausage	Low fat Luncheon sausage
38. Regular powdered drinks	Diet/Sugar free powdered drinks
39. Regular Salami	Low fat Salami
40. Regular Sausages	Low fat Sausages
41. Regular soft drinks	Diet soft drinks
42. Rollups	Fresh fruit
43. Sour Cream	Natural yoghurt
44. Sugar (added to anything including drinks, baking, cooking etc)	Artificial sweetener
45. Sweets/Lollies	*
46. Syrups such as Golden Syrup, Treacle	Artificial sweetener
47. Takeaways	*
48. Toasted muesli	Un-toasted muesli
49. Vegetable crisps	*
50. Yoghurt type products with ≥ 10g sugar per 100g yoghurt	Yoghurt (not more than one a day)

Three elements of an addiction approach

- Permanent lifestyle change
- Abstinence as an "addiction interrupter"
- Motivational interviewing

Motivational Interviewing

- Gentle, flexible, respectful, collaborative, subtly confrontative, information giving

- Basic Principles
  - Develop discrepancy
  - Express empathy
  - Avoid argumentation
  - Roll with resistance
  - Support self-efficacy

- “I learn what I believe through what I hear myself saying”

Treatment guidelines for the current research groups

- Permanent lifestyle change
  - Slow weight loss (5-10%per year for 5 years)
- Take control, get active, eat well, persist, enjoy life
  - Daily weighing and recording
  - 20 minutes moderate exercise a day
  - Abstinence from NEEDNT foods – but which foods and for how long to be discovered by each person
  - Keep going
  - Don't put off being happy - begin genuine happiness today
- Collaborative (co-investigator) approach

Some of the discoveries

- Daily weigh-in
  - all initially resistant, but feeling subsides over time; daily weighing now central to feeling in control for a majority and a way of regaining control
- NEEDNT food
  - over time becomes less appealing, first evident at about six weeks
- "Food addiction"
  - compulsive overeating just like drug addiction
  - abstinence makes more sense the more compulsive the eating is