

[Evidence-based Natural Health]

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RESEARCH REVIEW



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www.researchreview.co.nz

Respiratory Research Review

SUMMARISING SIGNIFICANT GLOBAL MEDICINE

Issue 1 2006

In this issue:

- > *Racial differences in
smoking related lung
cancer*
- > *Trends in
hospitalisations from
pneumonia*

Welcome to the first edition of **Respiratory Research Review**, a unique New Zealand respiratory publication bringing you the most important scientific research from around the world every month.

The Respiratory Research Review has been established to help make life easier for the respiratory medicine community in New Zealand. Every month around 10,000 scientific publications are printed worldwide containing a multitude of new studies from several countries. Many contain a few papers on respiratory medicine and several others are devoted entirely to respiratory research. In short, keeping up is hard and requires significant devoted time to screening out what is irrelevant to your practice or your country. In essence we want to save you time sorting the 'wheat from the chaff' so you can spend more time doing what you're best at.

The Respiratory Research Review is a summary of what we think are the most significant recent published trials with a local commentary on why they are important and how they can potentially affect practice. Selection and review of

www.naturalhealthreview.co.nz

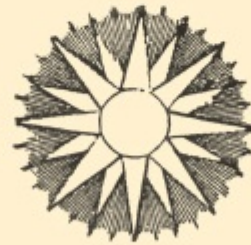
Natural Health Review

Proven Natural Health

Issue 5 - 2006

NATURAL
REMEDIES
THAT REALLY
WORK

A NEW ZEALAND GUIDE



What medical research *actually* says
about natural health products and therapies

DR SHAUN HOLT

Overview

- Need for evidence-based natural health info
- The middle ground
- Pharmaceuticals from natural products
- Good and bad research
- Natural health research
- Top 5 studies 2007 & 2008





YOUR DISAPPEARING LOCAL DOCTOR

SEE PAGES 1 & 19

A SPECIAL MAIL INVESTIGATION



Home Secretary reveals his true views on immigration to Labour activists

CLARKE: WE WANT MORE REFUGEES

CLARKE - The Home Secretary has revealed his true views on immigration to Labour activists in Britain.

He has been accused of wanting to see a return to the 1970s and 1980s levels of immigration.

Mr Clarke has also been accused of wanting to see a return to the 1970s and 1980s levels of immigration.

By David Mervin

THE HOME SECRETARY HAS REVEALED HIS TRUE VIEWS ON IMMIGRATION TO LABOUR ACTIVISTS IN BRITAIN.

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Foxy J-Lo fuels the fur debate



JENNIFER LOPEZ'S LATEST LOOK IS A FUR COAT THAT HAS FUELED THE DEBATE ON WHETHER WE SHOULD ALLOW THE SALE OF ANIMAL SKINS.

1000 PAGES 20-24

Daily Mail, UK - 2006

13/5 – exercise stops cancer

16/5 – tomatoes stop heart attacks

23/5 – soya may be bad for you

29/5 – need more sun exposure for vit D

13/6 – folate may stop cancer

13/6 – aspirin may stop colon cancer

13/6 – beer for menopause

19/6 – sleep with light on causes breast cancer

20/6 – eggs protect heart and may stop cancer

23/6 – spinach for slimming

27/6 – herbal diet pills don't work

Daily Mail, UK - 2006

27/6 – sauerkraut stops cancer

28/6 – mushrooms stop cancer and make you look younger

30/6 – pomegranate juice for prostate cancer

1/7 – bad sunblocks lead to skin damage

3/7 – sunbathing reduces cancer risk

4/7 – mammograms cause breast cancer

5/7 – hair dyes cause cancer

11/7 – dogs prevent cancer

11/7 – herbal tea prevents breast cancer

11/7 – manuka honey is the answer for everything

Daily Mail, UK - 2006

18/7 – fish oil prevents bowel cancer

19/7 – sun bad for you

2/8 – exotic mushrooms fight cancer

3/8 – vitamin supps may do more harm than good

3/8 – breastfed children cope better with stress

4/8 – curry stops Alzheimers

7/8 – divorce leads to heart disease

20 Things The Daily Mail Say Will Cause Cancer

- 1. FACEBOOK**
- 2. WINE**
- 3. A COLD**
- 4. DEODORANT**
- 5. CHIPS**
- 6. ORAL SEX**
- 7. VITAMIN E**
- 8. SAUSAGES AND BURGERS**
- 9. SOUP**
- 10. HAIR DYE**

11. MOUTHWASH
12. SUN CREAM
13. PRINGLES, HULA-HOOPS & PRINCE CHARLES' ORGANIC CRISPS
14. X-RAYS
15. TALCUM POWDER
16. MOISTURISERS
17. MOBILE PHONES
18. RED MEAT
19. TOOTH WHITENER
20. CHOCOLATES AND BAGGED SNACKS

SOMETHING SCIENTISTS TOLD YOU WAS BAD FOR YOU, IS IN FACT GOOD FOR YOU

by Our Health Staff **Hugh Nose**

SCIENTISTS have today revealed that something that was previously thought to be bad for you is, in fact, good for you.

On Other Pages ● Something that was thought to be good for you is, in fact, bad for you ● Something that was thought to be bad for you that was revealed to be good for you is actually revealed to be bad for you.

naturalhealthreview.org



Regular e-journal summarizing natural health products shown to work in good research

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The screenshot shows the website's layout. At the top is the logo and navigation bar. The main content area is divided into several sections:

- In this issue:** A list of topics with green circular icons: Which diet?, Antioxidants and antioxidants, Tea, coffee and diabetes, Yoga for back pain, Exercise and arthritis, Yoga and epilepsy, Herbal medicine for back pain, Fish oil for bipolar depression, Relieving menopause, Osteoporosis treatment, Smoking and economy class, Calcium in pregnancy.
- Welcome:** A text block explaining the journal's purpose: "Welcome to the first edition of Natural Health Review, the independent from England natural health publication which only includes well researched facts. There's no denying some natural products give fantastic results but there are plenty of others making claims with little evidence to back them up. Natural Health Review gives you independent information you can trust from only the most reliable medical sources. Selection is carried out by me, Dr Susan Hall, and there are website links to the source if you want more information. The only results that make it to the Review are those with good quality reliable research I've included my opinion to help you choose products that work. If you have friends interested in natural health who you think would like the Review, they can email on our website. We hope you enjoy the first edition. Kind regards, Dr Susan Hall, s.hall@naturalhealthreview.co.uk"
- Which Diet is Best?:** A section with a sub-heading "The facts:" and a list of bullet points: "People in this study followed the Atkins diet, DASH diet, Weight Watchers pure points programme or Rosemary Conley's 'Eat yourself slim diet and fitness plan'." "Results showed, if you are trying to lose weight the type of diet makes little difference." "The average weight loss was about 10kg over 6 months." Below the text is a small image of raspberries.
- Independent comments:** A small portrait of Dr Susan Hall with text: "Independent comments by Dr Susan Hall, BSc(Hon) (Hons), MEd(Ed) (Hons)".
- Subscribing to Natural Health Review:** Text providing contact information: "To subscribe go to www.naturalhealthreview.co.uk To unsubscribe simply email s.hall@naturalhealthreview.co.uk and unsubscribe is the subject line. Natural Health Review publications are available at www.naturalhealthreview.co.uk"

At the bottom of the page, there is a footer with the website URL and the text "RESEARCH REVIEW PUBLICATION".

What is Natural Health?

- Self-care system of natural therapies concerned with building and restoring health and wellness via prevention and healthy lifestyles.
- Includes diet, exercise, naturopathy, massage, relaxation techniques, acupuncture, aromatherapy



The Middle Ground



General practitioners' attitudes toward (and use of) complementary and alternative medicine: a New Zealand nationwide survey

Table 3. Administration and referral patterns for CAM therapies

Variable	Administer		Refer		Administer & Refer		Neither		NA	
	n	%	n	%	n	%	n	%	n	%
Acupuncture	19	6.3	226	75.3	12	4.0	40	13.3	3	1.0
Aromatherapy	1	0.3	6	2.0	1	0.3	288	96.0	4	1.3
Chiropractic manipulation	3	1.0	233	77.7	1	0.3	60	20.0	3	1.0
Herbal medicines	12	4.0	29	9.7	3	1.0	250	83.3	6	2.0
Homeopathy	6	2.0	37	12.3	3	1.0	251	83.7	3	1.0
Hypnosis	4	1.3	113	37.7	2	0.7	176	58.7	5	1.7
Naturopathy	1	0.3	37	12.3	1	0.3	257	85.7	4	1.3
Osteopathy	3	1.0	210	70.0	4	1.3	81	27.0	2	0.7
Reflexology	2	0.7	5	1.7	0	0.0	289	96.3	4	1.3
Spiritual healing	5	1.7	26	8.7	3	1.0	262	87.3	4	1.3
Traditional Chinese Medicine	1	0.3	33	11.0	2	0.7	261	87.0	3	1.0
Traditional Māori Medicine	1	0.3	31	10.3	0	0.0	265	88.3	3	1.0
Traditional Pacific Island Medicine	1	0.3	13	4.3	0	0.0	282	94.0	4	1.3
Other	7	2.3	7	2.3	0	0.0	158	52.7	128	42.7

Pharmaceuticals and natural products



- $\frac{1}{4}$ prescription drugs directly from plants or chemically modified versions
- $> \frac{1}{2}$ modeled on natural compounds

< 1% rainforest plants have been tested



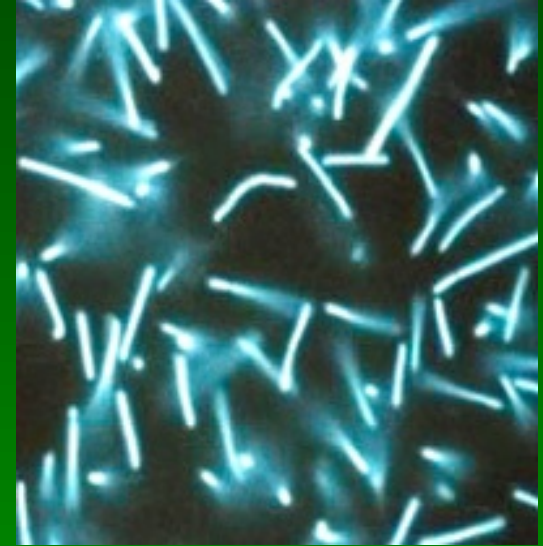
- Plants have been evolving chemical defense mechanisms for millions of years
- Chemicals often toxic but some can be used/modified to treat disease

Pharmaceuticals and natural products



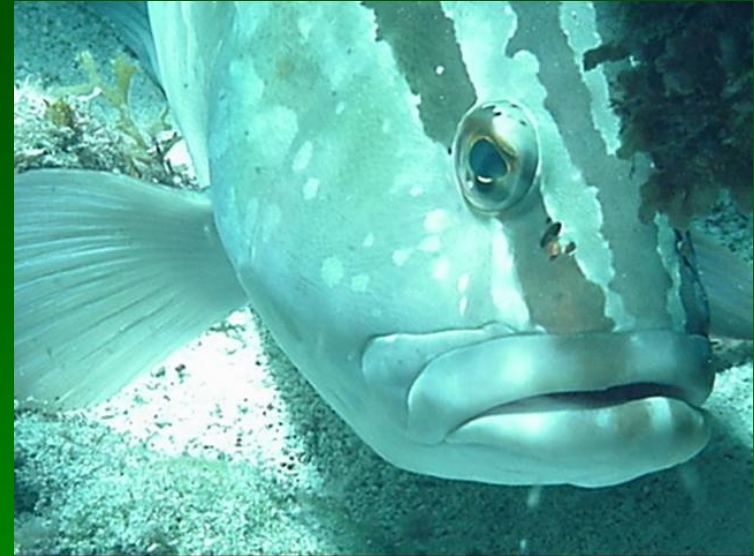
- Morphine, cocaine, digitalis, quinine, tubocurarine
- Useful themselves or basis for synthetics
- Recently example is anticancer drug Taxol, from yew tree

Bacteria and fungi



- Made for advantage in microbiological world
- Screening since discovery of penicillin
- Soil & water samples tested from all over world
- Antibacterial agents eg. cephalosporins, tetracyclines, chloramphenicol

Pharmaceuticals and natural products



- Coral, sponges, fish, and marine microorganisms produce many potent chemicals
- eg curacin A, from a marine cyanobacterium, has potent antitumor activity

Venoms and toxins



- From animals, plants, snakes, spiders, scorpions & insects
- Act on receptors, ion channels, and enzymes
- eg. venom of Brazilian viper was lead compound for cilazapril and captopril

Venoms and toxins

- Neurotoxins from *Clostridium botulinum* injected into muscles to prevent muscle spasm



Asthma Treatments

Late 1800's – bovine adrenal gland extract

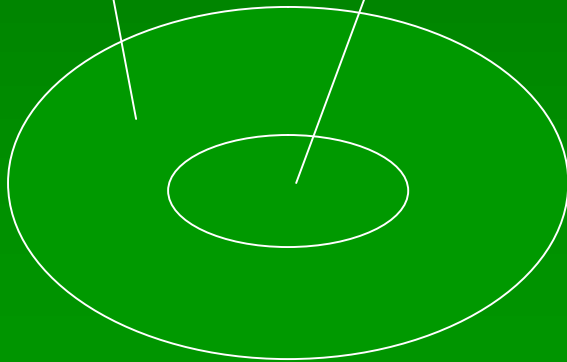
2007 – inhalers delivering both a corticosteroid and a long-acting beta-agonist



Bovine adrenals

Cortex – steroids

Medulla - adrenaline



Modern inhaler

Eformoterol – similar to adrenaline

Budesonide – steroid



Good research



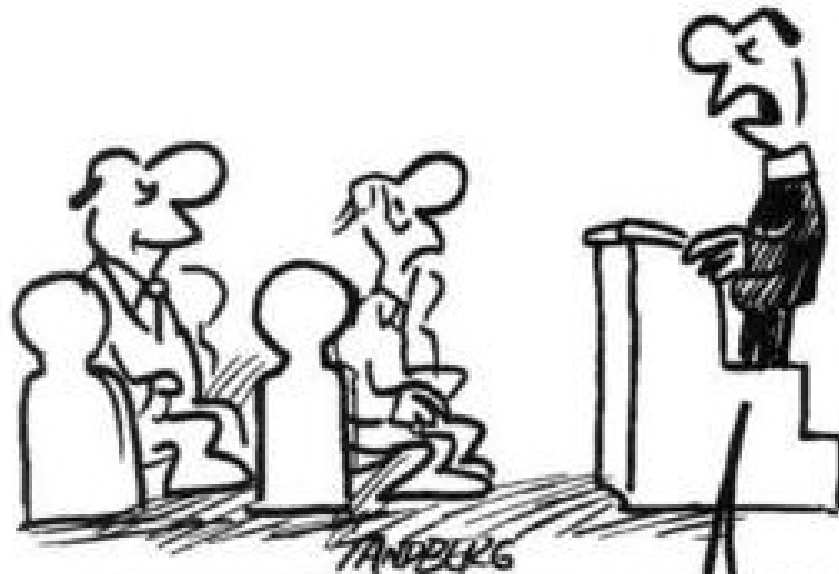
The Scientific Method

Peer review

Levels of evidence

The Scientific Method

- 1800 - life expectancy in France just under 30 years, England 36
- 1950 - high 60s in England and France
- Reason: scientific and industrial revolution
- Most important: reduction in death in infancy

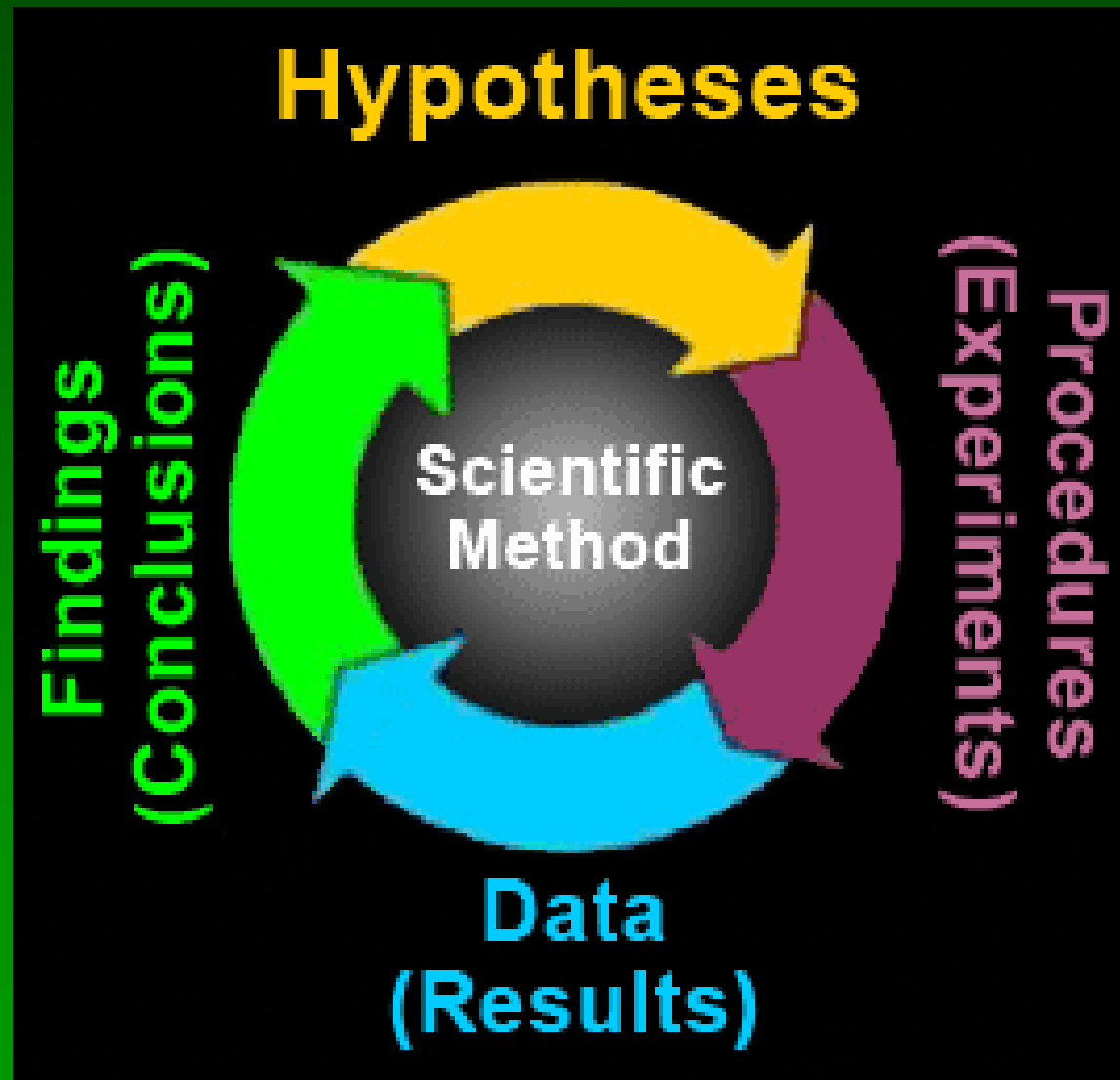


NOT ONLY WILL A POOR MAN
HAVE MORE CHANCE OF
ENTERING THE KINGDOM OF
HEAVEN... HE'LL ALSO GET
THERE SOONER

Early medicine



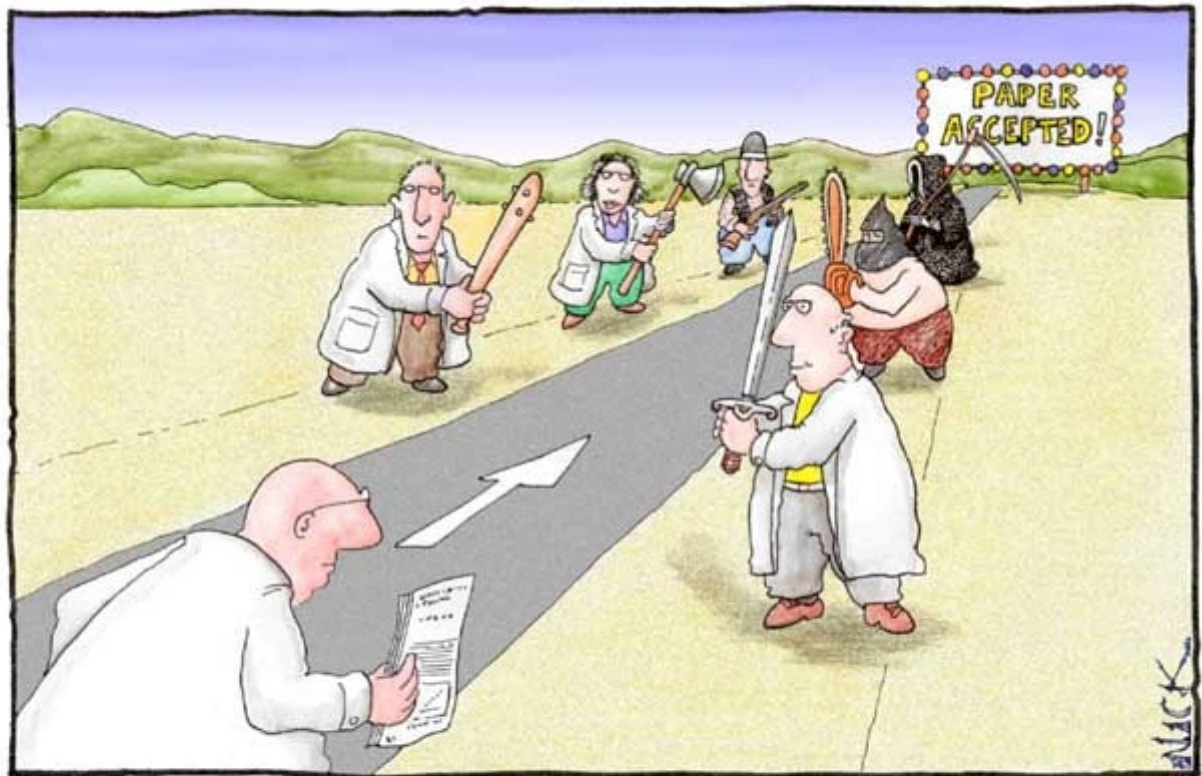
The Scientific Method



Peer Review



STRANGE WORLD
by nick d. kim
strange-ma



Most scientists regarded the new streamlined peer-review process as 'quite an improvement.'

Levels of Evidence

Level 1 Large RCT or meta-analysis

Level 2 Small RCT

Level 3 Non-randomised trials, cohorts,
case series, case-control studies

Level 4 Expert authority opinion

Level 5 Expert opinion

Bad Research

Small studies

In vitro or animal

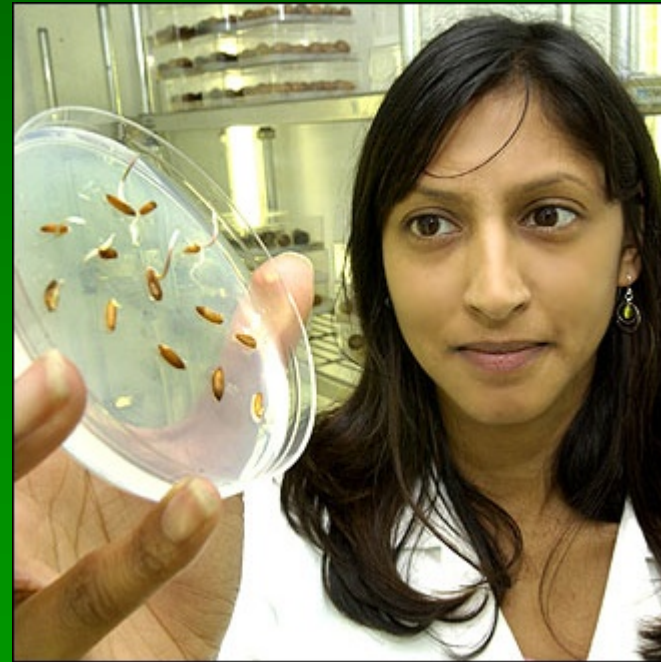
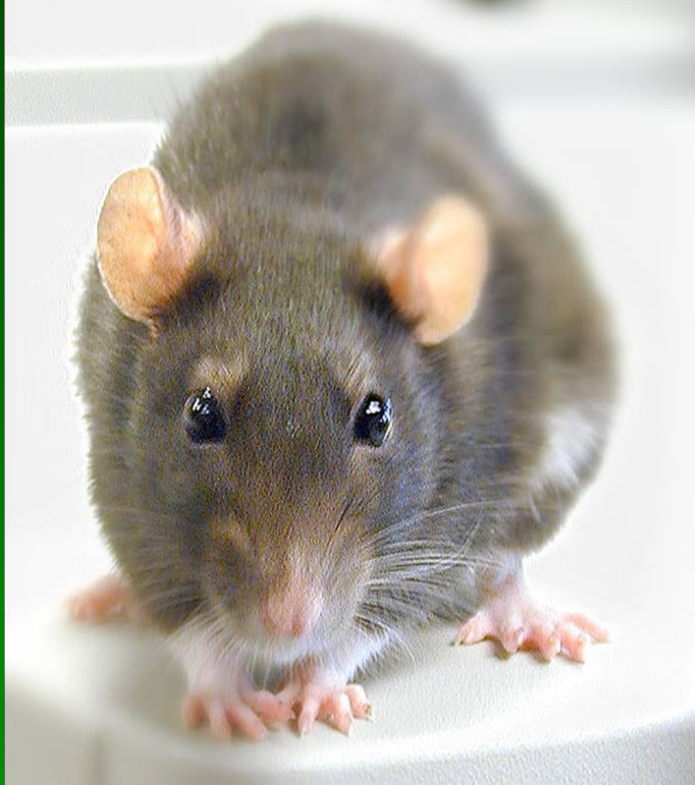
Not controlled

Associations, not causes

Bad reporting



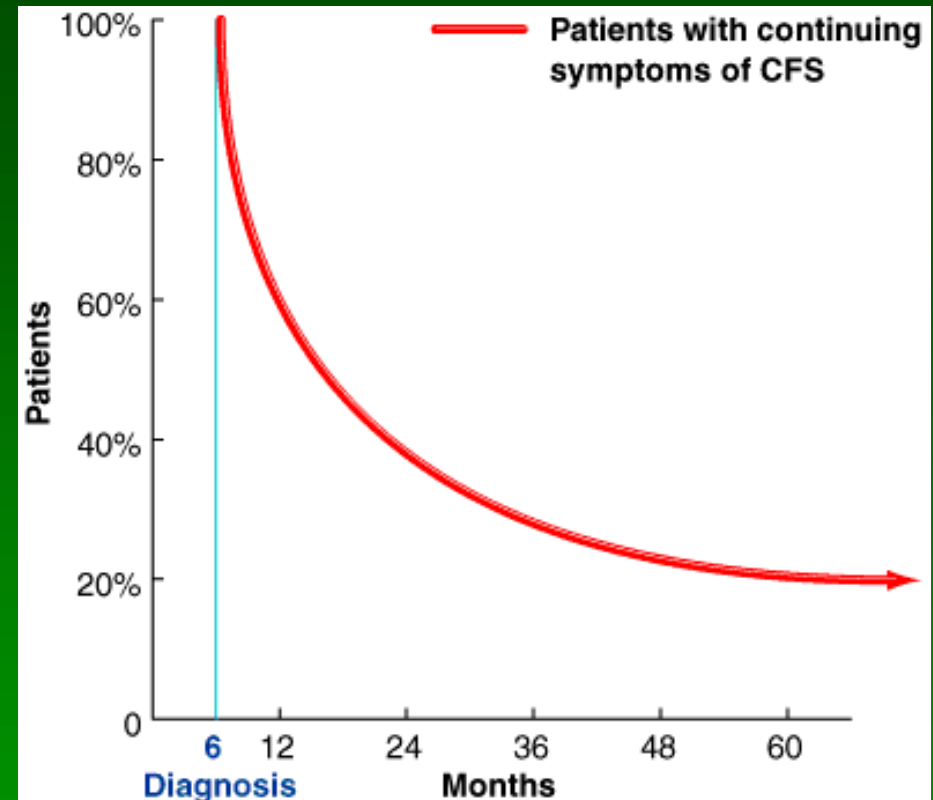
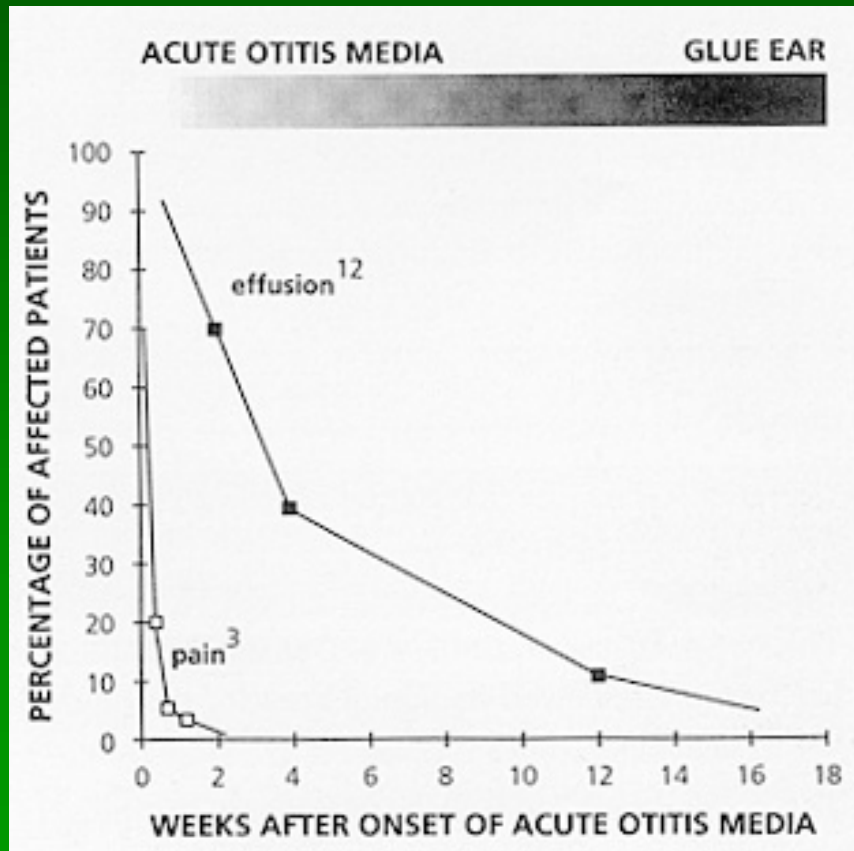
Need studies in humans



Placebo Effect

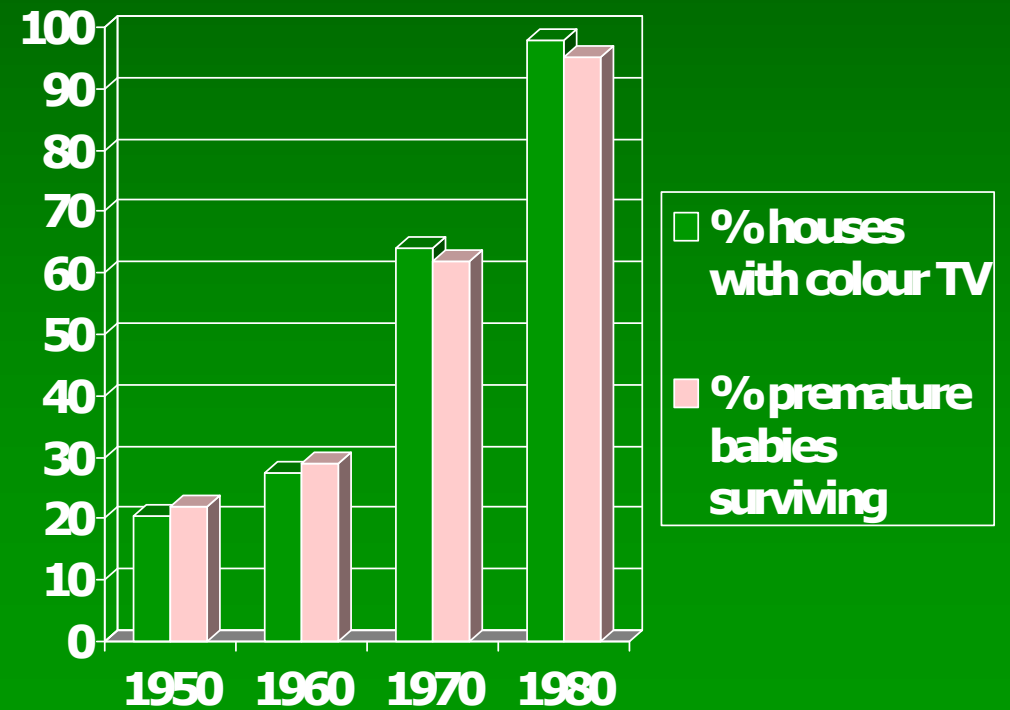


Natural history



Bad Research

- Do colour television sets help premature babies survive?



Association different to cause!

- **Associations** may give clues, but may not necessarily be **causal** relationship
- eg. test people with Alzheimer's for levels of 40 different vitamins & minerals
- Expect 2 of the 40 may be out of the normal range by chance



Badly reported research

“Low zinc causes Alzheimer’s”

“Selenium supplements may prevent Alzheimer’s”



Lyprinol and cancer 1999

- One small in vitro study
- Reported in media as cure for cancer
- ? Honest mistake or deliberate scam
- Gave other natural product companies a bad name



Natural Health Research - Patents

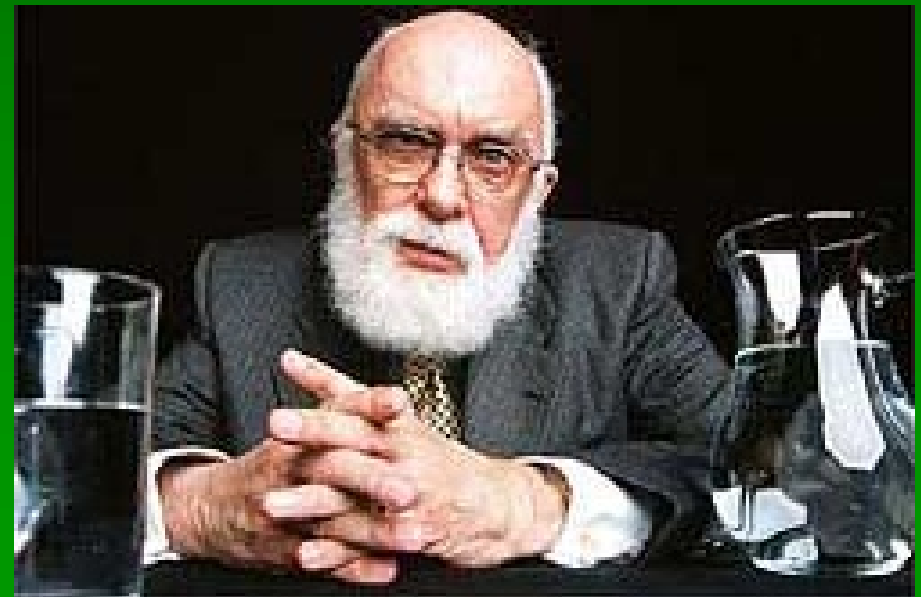
- Patent: set of exclusive rights granted by a state to the inventor for a fixed period of time



- Invention: *new*, inventive, and useful or industrially applicable

Natural Health Research

- Does scientific method apply to natural health?



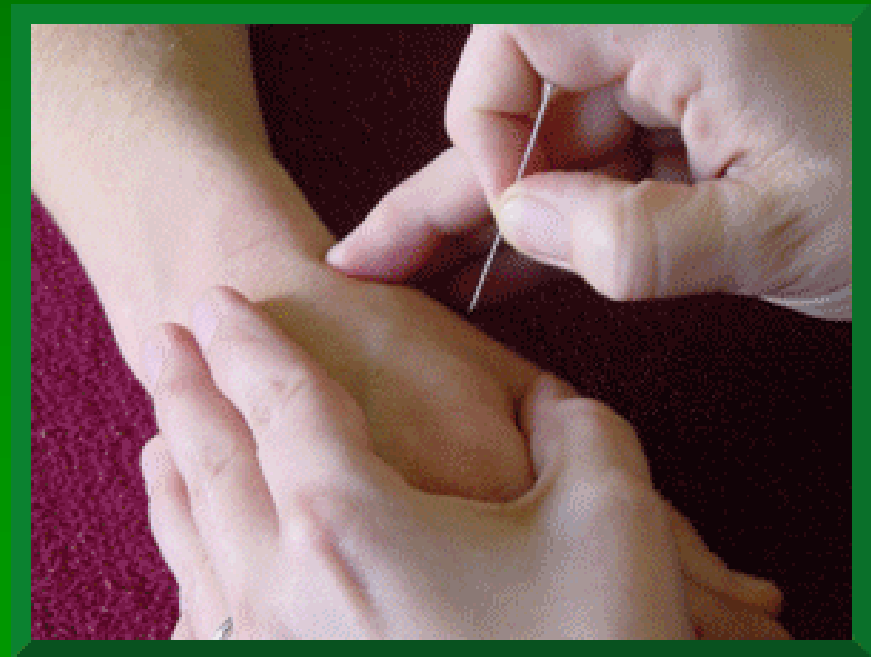
Which outcome measures?

- Holistic approach to healing
- Multiple biological, psychological and social factors are interlinked



Natural Health Research

- Can have treatments even if science is not understood



The Solution?

- ? Well-conducted studies with appropriate outcome measures
- eg. Quality of life



Top 5 Natural Health studies 2007

5



Effects of Folic Acid Supplementation on Hearing in Older Adults

Slowed the decline in hearing associated with aging

Helicobacter pylori Eradication: A Randomized
Prospective Study of Triple Therapy Versus Triple
Therapy Plus Lactoferrin and Probiotics

Addition of lactoferrin and probiotics increased
eradication rate from 76% to 92%

3

RHEUMATOLOGY

Current Role of Glucosamine in the Treatment of Osteoarthritis

Positive effects on knee osteoarthritis symptoms and structure

2

 **The American Journal of
CLINICAL NUTRITION**

Fish Consumption, n-3 Fatty Acids, and Subsequent 5-y Cognitive Decline in Elderly Men

Fish consumers had less 5-y cognitive decline
than non-consumers

1

THE LANCET

Evaluation of Echinacea for the Prevention and Treatment of the Common Cold: a meta-analysis

Echinacea reduces the chance of getting a cold by 58%, shortens duration by 1.4 days

Top 5 Natural Health studies 2008

Probiotic food supplement reduces stress-induced gastrointestinal symptoms

Lactobacillus acidophilus and *Bifidobacterium longum* significantly reduced stress-induced gastrointestinal symptoms

Effect of Honey, Dextromethorphan, and No Treatment on Nocturnal Cough and Sleep Quality for Coughing Children and Their Parents

Honey may be a preferable treatment for the cough and sleep difficulty associated with childhood upper respiratory tract infection.

3

THE LANCET

Effect of n-3 polyunsaturated fatty acids in patients with chronic heart failure

Omega-3 can provide a small beneficial advantage in terms of mortality and admission to hospital for cardiovascular reasons in patients with heart failure

2



Effects of acupuncture on rates of pregnancy and live birth among women undergoing in vitro fertilisation

Complementing the embryo transfer process with acupuncture was associated with significant and clinically relevant improvements in clinical pregnancy

1

Australian and New Zealand Journal of Psychiatry

Comparison of therapeutic effects of omega-3 fatty acid eicosapentaenoic acid and fluoxetine

EPA and fluoxetine had equal therapeutic effects in major depressive disorder. EPA + fluoxetine combination was superior to either of them alone.

Thank you

Let's debate!

- Should doctors recommend homeopathy & chiropracty?
- Can we accept less evidence for natural treatments?
- Ethical to use placebos in medical practice?
- Should everyone take multivitamin and fish oil?