



ORDINE
MEDICI CHIRURGI
E ODONTOIATRI
DELLA PROVINCIA
DI BRESCIA
COMMISSIONE MEDICINE COMPLEMENTARI
Coordinatore: Dott. Cesare Spedini

Convegno

**LE MEDICINE COMPLEMENTARI E NON ALTERNATIVE:
dalle pratiche millenarie alle evidenze scientifiche**

Sala Conferenze Ordine Medici ed Odontoiatri - Via Lamarmora n. 167 (Palazzo il Diamante) - Brescia

30 gennaio 2016 - ore 8.00

CONCLUSIONI

Francesco Donato

**Unità di Igiene, Epidemiologia e Sanità Pubblica
Università degli Studi di Brescia**

Che cosa ci aspettiamo dalla medicina,
in termini di prevenzione, diagnosi e cura ?

- 1) Efficacia = che faccia bene
- 2) Sicurezza = che non faccia male

- Le basi delle conoscenze -> agire in ambito sanitario sono:

- Formazione (laurea, specializzazione...)
- Studio
- Esperienza
-



Evidence Based Medicine
(= medicina basata sulle prove)

Ricovero in ospedale e febbre puerperale – Lo studio di Ignac Semmelweis (1818-1865)

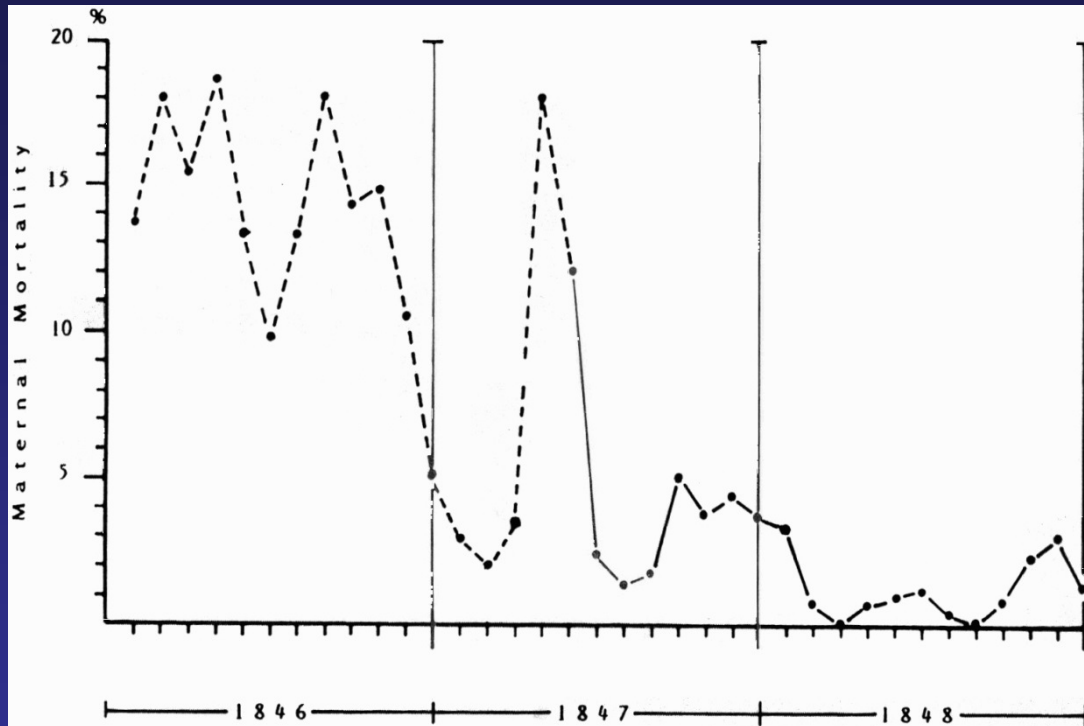


Figure 20.1. Effect of hygienic hand disinfection as introduced by Semmelweis in May 1847 on the maternal mortality at the k.k.l. Obstetric University Clinic in Vienna. ----= Before introduction; —= after introduction.



Il mondo medico viennese non solo non riconosce come plausibili le spiegazioni fornite per spiegare la riduzione del tasso di mortalità, che viene invece attribuito a variazioni della composizione dei miasmi, ma addirittura isola Semmelweis e lo deride. Di conseguenza si oppone con forza all'implementazione del nuovo metodo.

La medicina è una scienza esatta ?

Why Most Published Research Findings Are False

John P. A. Ioannidis

Summary

There is increasing concern that most current published research findings are false. The probability that a research claim is true may depend on study power and bias, the number of other studies on the same question, and, importantly, the ratio of true to no relationships among the relationships probed in each scientific field. In this framework, a research finding is less likely to be true when the studies conducted in a field are smaller; when effect sizes are smaller; when there is a greater number and lesser preselection of tested relationships; where there is greater flexibility in designs, definitions, outcomes, and analytical modes; when there is greater financial and other interest and prejudice; and when more teams are involved in a scientific field in chase of statistical significance. Simulations show that for most study designs and settings, it is more likely for a research claim to be false than true. Moreover, for many current scientific fields, claimed research findings may often be simply accurate measures of the prevailing bias. In this essay, I discuss the implications of these problems for the conduct and interpretation of research.

factors that influence this problem and some corollaries thereof.

Modeling the Framework for False Positive Findings

Several methodologists have pointed out [9–11] that the high rate of nonreplication (lack of confirmation) of research discoveries is a consequence of the convenient, yet ill-founded strategy of claiming conclusive research findings solely on the basis of a single study assessed by formal statistical significance, typically for a p -value less than 0.05. Research is not most appropriately represented and summarized by p -values, but, unfortunately, there is a widespread notion that medical research articles

It can be proven that most claimed research findings are false.

should be interpreted based only on p -values. Research findings are defined here as any relationship reaching formal statistical significance, e.g., effective interventions, informative predictors, risk factors, or associations. “Negative” research is also very useful. “Negative” is actually a misnomer, and

is characteristic of the field and can vary a lot depending on whether the field targets highly likely relationships or searches for only one or a few true relationships among thousands and millions of hypotheses that may be postulated. Let us also consider, for computational simplicity, circumscribed fields where either there is only one true relationship (among many that can be hypothesized) or the power is similar to find any of the several existing true relationships. The pre-study probability of a relationship being true is $R/(R + 1)$. The probability of a study finding a true relationship reflects the power $1 - \beta$ (one minus the Type II error rate). The probability of claiming a relationship when none truly exists reflects the Type I error rate, α . Assuming that c relationships are being probed in the field, the expected values of the 2×2 table are given in Table 1. After a research finding has been claimed based on achieving formal statistical significance, the post-study probability that it is true is the positive predictive value, PPV. The PPV is also the complementary probability of what Wacholder et al. have called the false positive report probability [10]. According to the 2×2 table, one gets $PPV = (1 - \beta)R/(R$

Problems with **scientific research**

How science goes wrong

Scientific research has changed the world. Now it needs to change itself

Oct 19th 2013 | From the print edition



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Too many of the findings that fill the academic ether are the result of shoddy experiments or poor analysis (see [article](#)). A rule of thumb among biotechnology venture-capitalists is that half of published research cannot be replicated. Even that may be optimistic. Last year researchers at one biotech firm, Amgen, found they could reproduce just six of 53 “landmark” studies in cancer research. Earlier, a group at Bayer, a drug company, managed to repeat just a quarter of 67 similarly important papers. A leading computer scientist frets that three-quarters of papers in his subfield are bunk. In 2000-10 roughly 80,000 patients took part in clinical trials based on research that was later retracted because of mistakes or improprieties.

In this section

How science goes wrong

Worse than Europe, really

A very rational award

The best v the not-too-bad

The crunch in Caracas



Reprints

The image shows a screenshot of a news article from ANSA.it. The page has a green header with the ANSA.it logo. Below the header is a light blue banner with the text 'Salute&Benessere'. A navigation bar contains several categories: NEWS, SPECIALIED EVENTI, VIDEO, PROFESSIONAL, SALUTE BAMBINI, and 65+. Below this is a secondary navigation bar with links for Sanità, Medicina, Associazioni, Alimentazione, Estetica, Stili di vita, Terme e Spa, and Si può vincere. The main content area shows the breadcrumb path: ANSA > Salute e Benessere > Medicina > Un milione di reazioni avverse ai farmaci nel 2013 in Ue, +26%. The article title is 'Un milione di reazioni avverse ai farmaci nel 2013 in Ue, +26%' in a large, bold, black serif font. Below the title is a subtitle: 'Aumentate segnalazioni anche per maggiore attenzione'. The date and time are '29 aprile, 16:08'. At the bottom right of the article are social media sharing buttons for Google+, Twitter, and Facebook, with counts of 1, 1, and 60 respectively.

Nel 2013 sono state segnalate nell'area europea oltre un milione di reazioni avverse ai farmaci dopo la commercializzazione, il 26% in più rispetto a quanto riportato nel 2012: è quanto emerge dal secondo rapporto annuale EudraVigilance compilato dall'Agenzia europea per i farmaci (Ema) per il Parlamento Europeo. In particolare ogni mese sono stati circa 88mila, in media, gli effetti collaterali ricevuti e valutati dall'Ema e dall'agenzie regolatorie degli Stati membri, e il maggior incremento si è registrato all'interno dell'Area Economica Europea, con un +52% rispetto all'anno precedente.

Ayurvedic Medicine: It Is “Time” for Scientifically Sound Studies

Dinesh Khanna, MD, MS

Ayurveda translates into *knowledge (Veda) of life (Ayur)* (1) and is one of the oldest and still widely practiced medical systems in the Indian subcontinent (2). The concept of Ayurvedic medicine is to promote health, rather than to fight disease, and Ayurveda in daily life aims at maintaining harmony between nature and the “individual” to ensure optimal health (1). Appropriate food, sleep, and sexual activity are three pillars of good health, with emphasis on personal hygiene, massage, and exercise. The disruption of this harmony leads to disease, and reversal of the steps that produce disease is the main therapeutic approach. Individualized treatment regimens include fasting, massages, and/or Ayurvedic medicines (both herbs and mineral compounds) to restore the harmony with nature (1).

approach in a 1-year RCT conducted in the US (8). In another RCT in African Americans, stress reduction obtained through Transcendental Meditation, an integral part of Maharishi Vedic Medicine, was compared against a nonpharmacological, cardiovascular disease risk factor prevention education program (13). After an average intervention period of 6.8 ± 1.3 months, the meditation group had a statistically significant decrease in their carotid intima-media thickness compared with the control population.

However, claims of effectiveness of herbs are limited to anecdotal reports and personal experiences. These claims do little justice when the “science” of the herb is unknown, and herb use can result in potential toxicity and drug–herb interactions. Appropriate skepticism, hesitancy, and fear regard-

Division of Rheumatology, Department of Medicine, David Geffen School of Medicine, Los Angeles, CA.

Address correspondence and reprint requests to: Dinesh Khanna, MD, Division of Rheumatology, Department of Medicine, David Geffen School of Medicine, Los Angeles, CA 90085. E-mail: dinesh.khanna@uc.edu



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U.S. Adults Spend Billions Out-of-Pocket on Complementary Approaches for Pain (August 27, 2015)

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News >

- Advisory Council 57th Meeting Agenda — October 2, 2015
- Omega-3 Supplements: An Introduction
- NIH awards nearly \$35 million to research natural products (09/09/15)
- Blog Post: Natural Products As Potential Weapons Against Lethal Viruses (09/02/15)
- Massage Therapy for Health Purposes: What You Need To Know



Box 10: T&CM integration into the Swiss health-care system

In Switzerland, the average prevalence of T&CM use (persons who have used T&CM) was 49% (47) after 1990. In 1998, the Federal Department of Home Affairs (DHA) decided that, from 1999 to 2005, five complementary therapies – anthroposophical medicine, homeopathy, neural therapy, phytotherapy and TCM (more precisely, traditional Chinese herbal therapy) – would be covered by the compulsory health insurance program (KLV), if the service was provided by a physician certified in CAM. Meanwhile, the Swiss government also set up a comprehensive programme to evaluate CAM (PEK), which was playing an ever-increasing role in the Swiss medical system, in order to determine its role and effectiveness.

According to the PEK evaluation result, CAM practitioners can be distinguished from physicians providing conventional health care in respect of the nature, location and technical resources of their practice. In 2009, more than 67% of national voters opted for a new constitutional article on CAM, with the result that certain complementary therapies have been re-instated into the basic health insurance scheme available to all Swiss citizens (48). The constitutional article on CAM is also likely to speed up compulsory lessons for medical students, standardization of training and certification in complementary therapies for both doctors and non-medical practitioners, and the availability of CAM products in Switzerland (49).

“Obamacare” covers fifty-four million Americans for acupuncture as Essential Healthcare Benefit

Arthur Yin Fan

McLean Center for Complementary and Alternative Medicine, PLC, Vienna, VA 22182, USA

21/3/2009

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“There are more things
in heaven and earth,
Horatio, than are dreamt
in your philosophy”

Shakespeare, *Hamlet*

Medicina convenzionale o alternativa ?

Un'autorevole opinione

Editorials

ALTERNATIVE MEDICINE — THE RISKS OF UNTESTED AND UNREGULATED REMEDIES

Herbal remedies may also be sold without any knowledge of their mechanism of action. In this issue of the *Journal*, DiPaola and his colleagues report that the herbal mixture called PC-SPES (PC for prostate cancer, and *spes* the Latin for “hope”) has substantial estrogenic activity.²⁶ Yet this substance is promoted as bolstering the immune system in patients with prostate cancer that is refractory to treatment with estrogen.²⁷ Many men taking PC-SPES have thus received varying amounts of hormonal treatment without knowing it, some in addition to the estrogen treatments given to them by their conventional physicians.

“ Non ci possono essere due tipi di medicina — convenzionale e alternativa. C'è solo una medicina, che è stata adeguatamente sperimentata e una medicina che non lo è stata. Una volta che un trattamento è stato sperimentato in modo corretto e se ne verifica efficacia e innocuità esso sarà accettato nell'uso corrente” (Angell e Kassirer, NEJM 1998)



Grazie per l'attenzione