Tipologie di studi epidemiologici e farmacoepidemiologici (parte 1)

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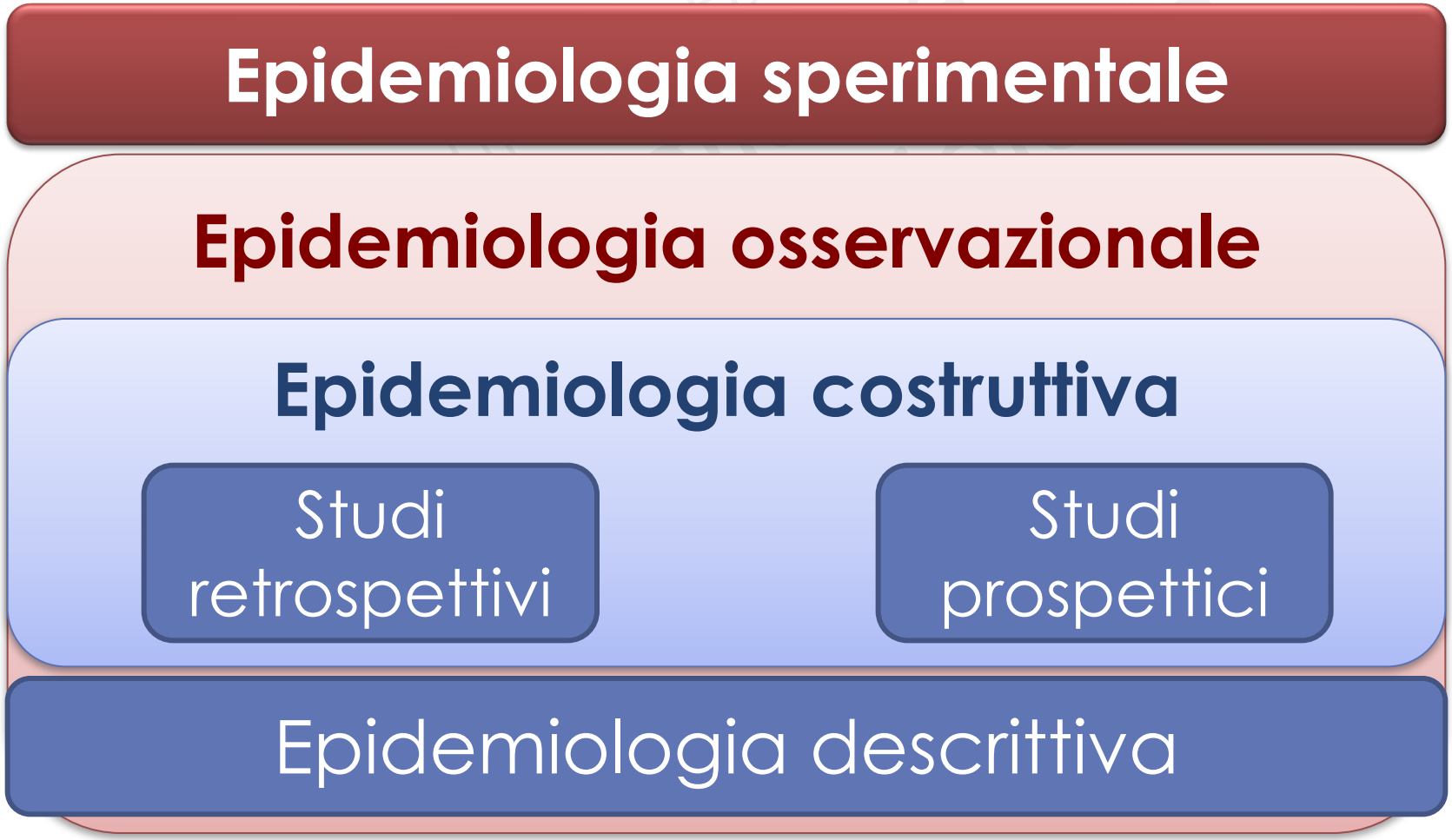
Studio epidemiologico

- Scelta del disegno dello studio condizionata da
  - Obiettivo
  - Esito ed esposizione
  - Tempo e risorse disponibili
  - Etica
- Uno studio epidemiologico è una semplificazione della realtà (nessuno studio potrà mai specificare tutti i possibili determinanti

È impossibile rappresentare la complessità della natura

Strategie di ricerca epidemiologica



Epidemiologia descrittiva

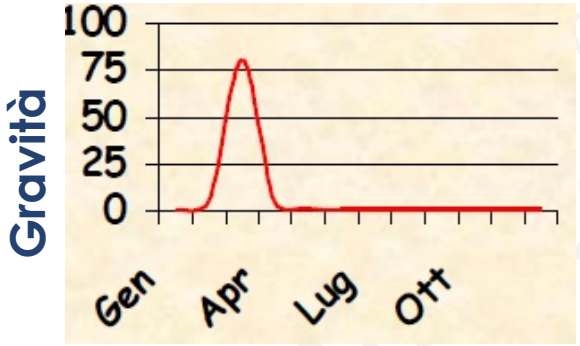
Studio della distribuzione del *continuum* salute/malattia nella popolazione in esame

Le variabili esaminate possono essere classificate come descrizione di persona, tempo, luogo:

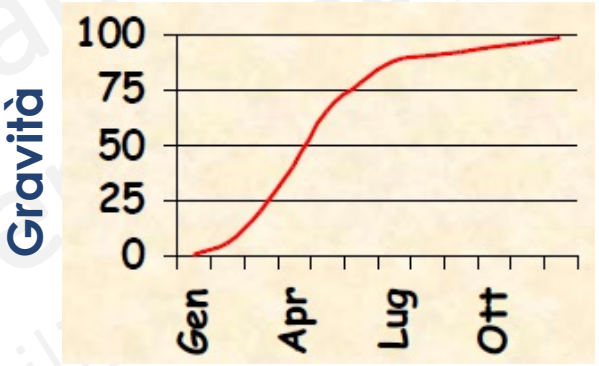
- ✧ Caratteri che descrivono il **tempo** durante il quale le persone che sono state affette dalla malattie
- ✓ C' è un' inusuale caratteristica della distribuzione dei casi per anno, mese, giorno oppure ora della comparsa?
- ✧ Caratteri che descrivono il **luogo** nel quale si è verificata la malattia
- ✓ I casi sono ugualmente distribuiti in relazione al paese, regioni, provincie, comuni?
- ✧ Caratteri che descrivono le **persone** affette
- ✓ Età, sesso, gruppo etnico, occupazione, scolarità, livello socioeconomico

Tempo e durata dei fenomeni

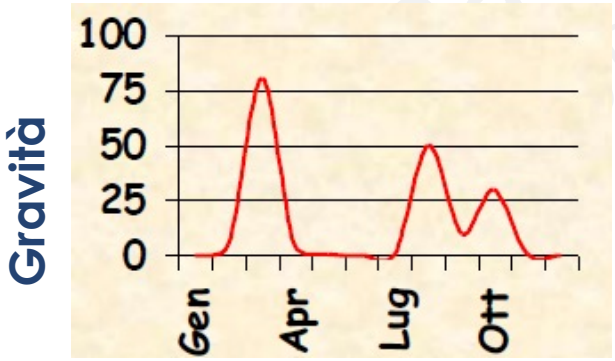
Acuti (es. Morbillo)



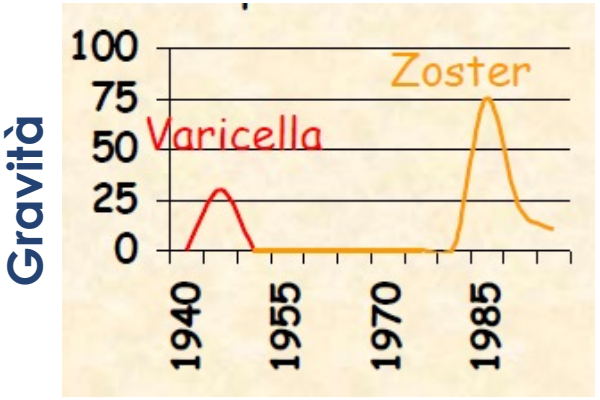
Cronico - degenerativo (es. Cancro)



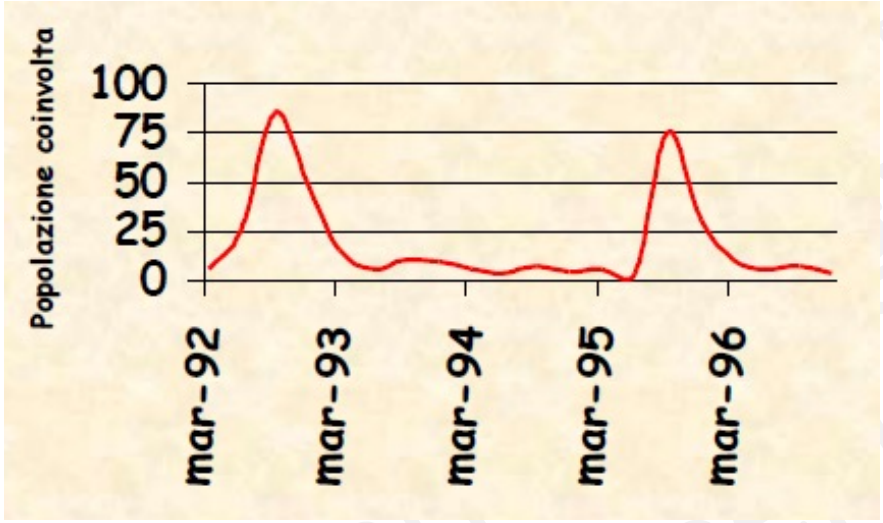
Recidivanti (es. LES)



Multipli (es. Zoster)



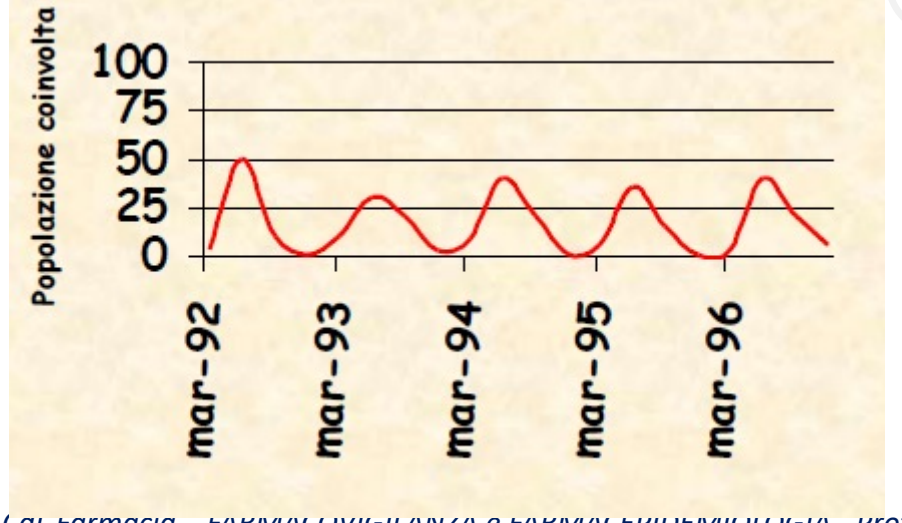
Tempo e ciclicità



Ciclicità pluriennale

✓da variazione nell' agente (es. Influenza)

✓da variazione nel pool dei suscettibili (es. Rosolia)

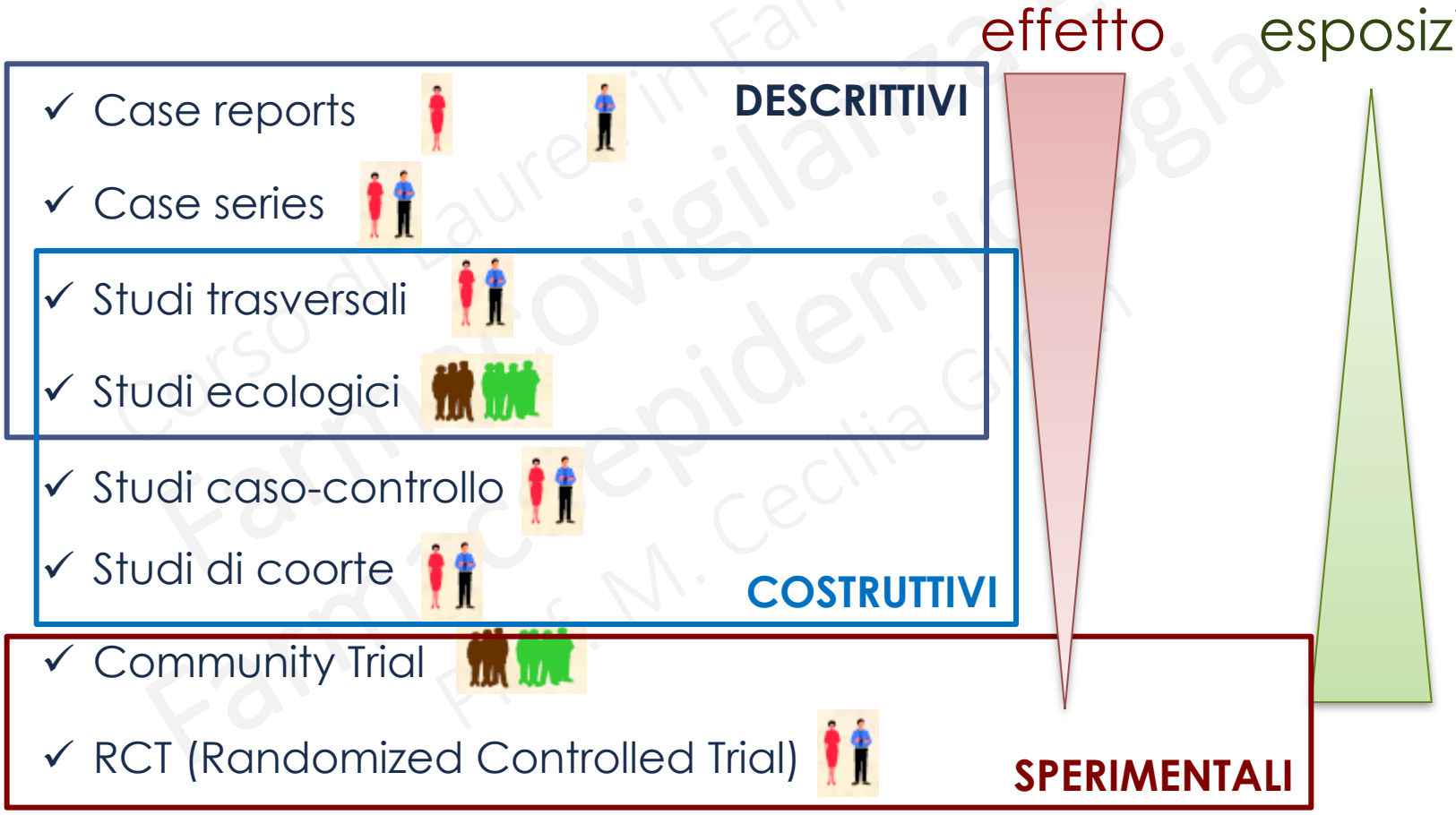


Ciclicità stagionale

✓Inverno-contagio diretto(es. Infezioni via respiratorie)

✓Estate-contaminazione (es. tossinfezioni alimentari)

Tipologia di studi



Disegno degli studi

- Descrivere stati di salute e di malattia nella popolazione e dei fattori ad essi correlati (base per formulare ipotesi)

  → **unico gruppo**

- Individuare determinanti di salute e di malattia (valutando ipotesi di associazione causa-effetto)

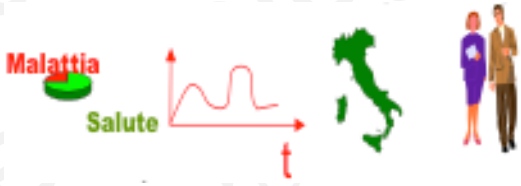
  → **controllo**

- Valutare l'efficacia degli interventi sanitari

  → **Intervento dello sperimentatore**

complessità

- Studi descrittivi
  - Case report
  - Case series
  - Traversali (survey)



- Studi costruttivi
  - Trasversali
  - Case-controllo
  - Coorte

- Studi sperimentali
  - Trial

osservazionali

sperimentali

Studi descrittivi

- Descrizione casi di malattia (case reports)
- Descrizione serie di casi di malattia (case series)
- Studi descrittivi propriamente detti (survey)

Studi descrittivi

Studi "case reports"

✓Dettagliata descrizione di segni e sintomi o risultati di laboratorio relativi ad un "**caso atipico**" od un piccolo gruppo di casi

Studi "case series"

✓Dettagliata descrizione di segni e sintomi o risultati di laboratorio relativi ad un "**elevato numero di casi**"

Studi descrittivi

Case report vs case studies

- ✓ Descrivono esperienze e caratteristiche di un **singolo paziente**
- ✓ o di un gruppo di pazienti con la stessa diagnosi
- ✓ Osservazioni mediche insolite
- ✓ Possono essere il primo indizio di una nuova malattia di effetti nocivi di un' esposizione o di efficacia di un trattamento
- ✓ L' analisi delle caratteristiche dei casi osservati può portare alla formulazione di nuove ipotesi

CASE REPORT: un esempio

Case report

Earl Grey tea intoxication

Lancet 2002; **359:** 1484

Neurologisches Krankenhaus Rosenhügel, Riedelgasse 5, 1130 Wien, Austria (J Finsterer PhD)
(e-mail: duarte@jet2web.cc)

Josef Finsterer

A 44-year-old man presented in May, 2001, with muscle cramps. He had no medical history of note, but volunteered the fact that he had been drinking up to 4 L of black tea per day over the past 25 years. His preferred brand was GoldTeefix (Tekanne, Salzburg, Austria). Since this type of tea had given him occasional gastric pain, he changed to Earl Grey (Twinings & Company, London, UK), which he thought would be less harmful to his stomach. 1 week after the change, he noticed repeated muscle cramps for some seconds in his right foot. The longer he drank Earl Grey tea, the more intense the muscle cramps became. After 3 weeks, they also occurred in the left foot. After 5 weeks, muscle cramps had spread towards the hands and the right calf. Occasionally, he observed fasciculations of the right adductor pollicis and gastrocnemius. Additionally, he noted distal paraesthesias in all limbs, and a feeling of pressure in his eyes, associated with blurred vision, particularly in darkness. On neurologic examination he had reduced visual acuity and fasciculations in the right tibialis anterior and adductor pollicis. Motor and sensory nerve conduction studies of the right median, peroneal and sural nerves were normal. Needle electromyography of the right tibialis anterior showed fasciculations at 6 of 20 sites, but motor unit architecture was preserved. Ophthalmological tonometry and fundoscopy, and cerebral magnetic

A soothing cup of tea?

and citropten (5,7-dimethoxycoumarin), which can be found in grapefruit juice, celery, parsnips, and Seville orange juice. Bergamot oil is a well-known UVA-induced photosensitiser with a strong phototoxic effect, and is used therapeutically in psoriasis, vitiligo, mycosis fungoides, and cutaneous lymphoma. Because of this side-effect, bergamot oil has been widely banned as an ingredient in cosmetics and tanning products.[1] Bergamot oil also has a hepatotoxic effect and may cause contact-allergy. The adverse effects of

Cd

Studi descrittivi: case report vs case studies

- Dettagliata descrizione, disegni, sintomi, risultati di laboratorio, fattori di rischio (persona) e caratteristiche luogo/tempo relativi a "casi atipici"
  - uno o un piccolo gruppo di casi: case reports
  - un elevato numero di casi: case series
- Osservazioni mediche insolite possono essere il primo indizio di una nuova malattia, di effetti nocivi di un'esposizione o di efficacia di un trattamento
- L'analisi delle caratteristiche dei casi osservati può portare alla formulazione di nuove ipotesi (es: AIDS)

Studi descrittivi: case report vs case studies

Vantaggi

- **Economici** (osservazioni particolari rilevate nella pratica routinaria)
- **Validi per fare ipotesi** (per la natura del fenomeno salute/malattia o la presenza di fattori "anomali" di rischio/protezione)
- Aiutano ad identificare e definire una situazione di salute/malattia e le sue possibili varianti

Svantaggi

- Non validi per testare ipotesi (no controllo)
- La presenza del fattore di rischio/protettivo e della malattia/salute può essere una coincidenza

Case report: un esempio

SPECIAL ARTICLE

HALF A CENTURY OF RUNNING*

Clinical, Physiologic and Autopsy Findings in the Case of Clarence DeMar ("Mr. Marathon")

JAMES H. CURRENS, M.D.,† AND PAUL D. WHITE, M.D.‡

BOSTON

IN 1909 at the age of twenty-one, Clarence DeMar placed fourth in a long-distance, cross-country run at the University of Vermont, where he was later awarded a letter in athletics. His last race was run in 1957, when, at the age of sixty-nine, he ran a 15-kilometer "marathon" in Bath, Maine. The intervening forty-nine years is a saga of marathon running unequaled in the annals of marathoning in this country. During this time he entered 34 and won 7 of the 25-26-mile marathons from Hopkinton (formerly started at Ashland) to Boston sponsored by the Boston Athletic Association. On 15 occasions he finished among the first 10 in the field. In 1954, at the age of sixty-six, he ran his last such marathon, finishing 78th in a field of 133. In all, "Mr. Marathon" had participated in over 1000 long-distance races, including 100 true marathons of 25 miles or more.

DeMar was also the subject of considerable medical investigation and figured prominently in the studies of A. V. Bock and his associates, who published their "Studies in Muscular Activity"[1] in the *Journal of Physiology* in 1928. It was during these studies that the efficiency of "Mr. Marathon" was demonstrated, in that during heavy exertion lactic acid did not accumulate in the blood as it did in other males of his age who were not in training (Fig. 1).

Our own studies were carried out in 1953 to determine the presence or absence of heart disease, since he had been told many years before that he had a "weak heart." The question of a murmur had been

*From the Cardiac Laboratory, Massachusetts General Hospital.
Supported in part by the Stephen Salisbury and Francis Blake funds and the Eli Lilly Company.
†Assistant in medicine, Massachusetts General Hospital; associate physician, Boston Lying-in Hospital.

‡Clinical professor of medicine emeritus, Harvard Medical School; consultant, Massachusetts General Hospital.

Case report: un esempio

printer.... Occasionally a career like his comes as a reminder of what human nature can achieve when great ability is united with strong character and single-minded devotion to essential values."

An autopsy of DeMar (Currens and White 1961) revealed a striking anatomic feature in his heart: "the coronary arteries were estimated to be two or three times normal size." While showing signs of lipid obstruction characteristic of aging hearts, his coronary arteries were so large that his cardiac performance was protected from such aging effects.

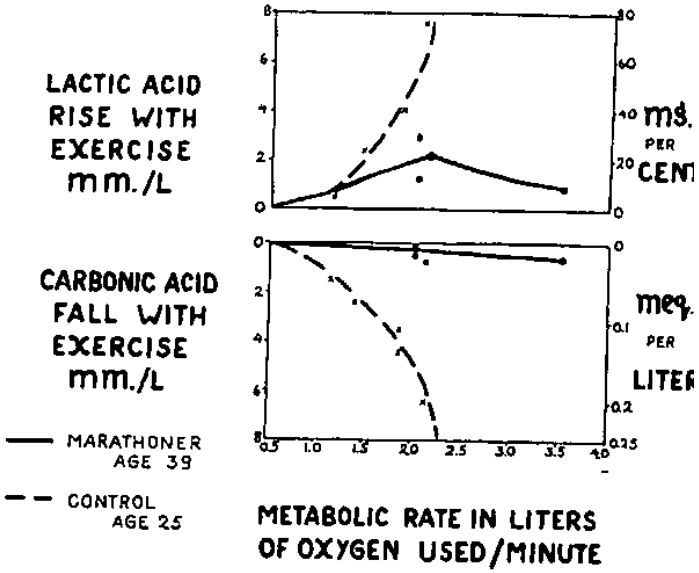
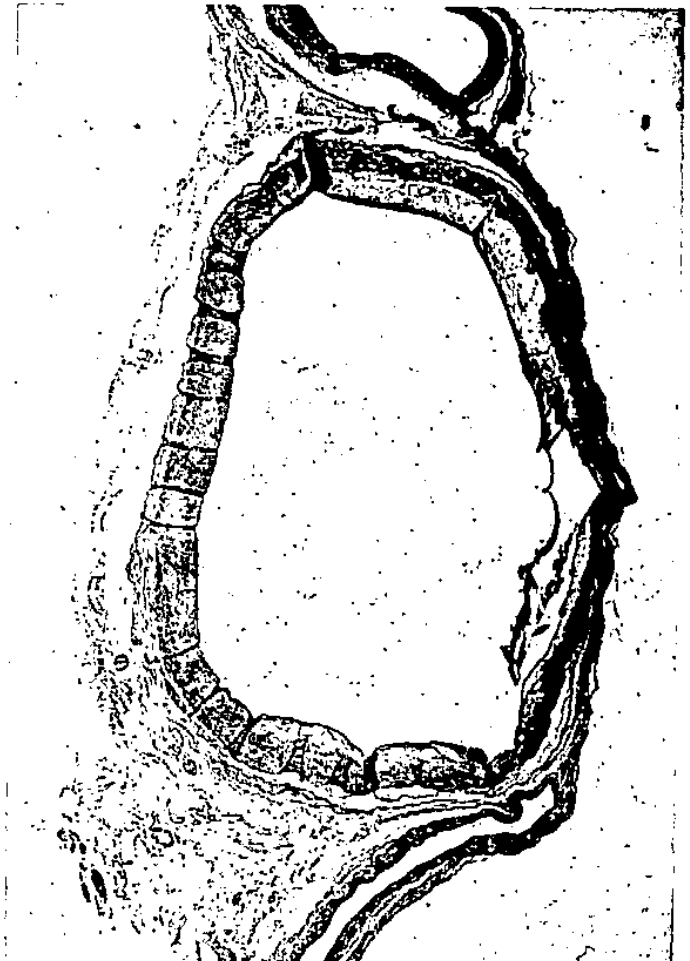


FIGURE 1. *Change in the Blood Lactic Acid and Carbon Acid Plotted after Various Degrees of Physical Effort Determined by the Oxygen Consumption in Liters Used p Minute (Adapted from Bock et al.[1]).*

The lack of much change in either blood lactic acid or ca bonic acid in the case of DeMar, the marathoner, is to b contrasted with a "control" twenty-five years of age.



Case report: un esempio

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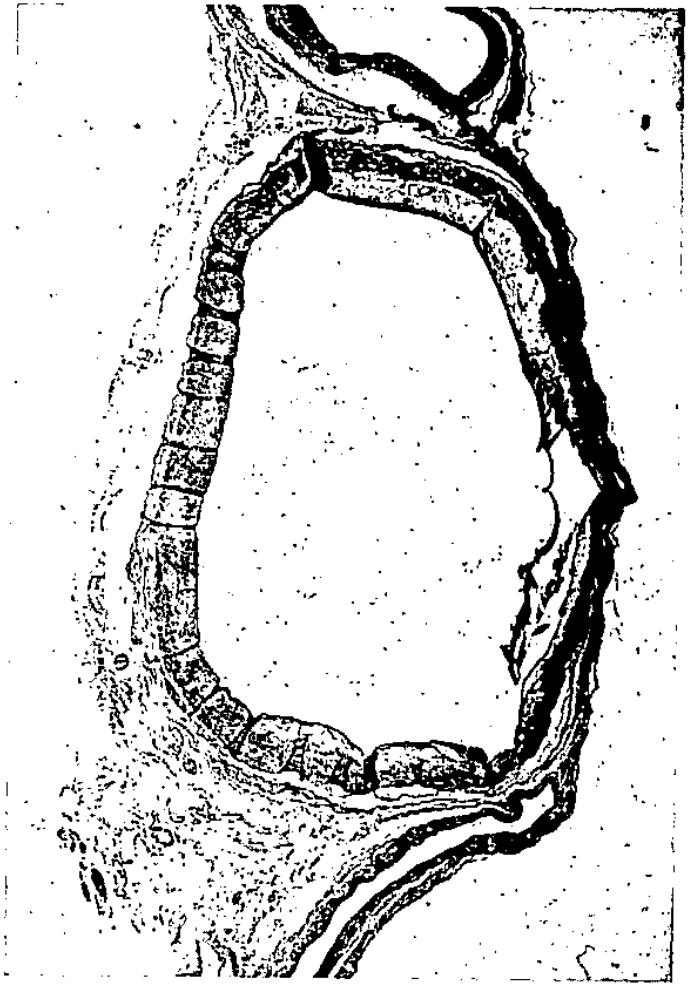

FIGURE 7. *Bifurcation of the Left Coronary Artery of C.D. Note the capacious lumen and little or no atherosclerosis.*

FIGURE 6. *Main Left Coronary Artery 0.5 Cm. from the Ostium in a "Control" Patient, Seventy Years of Age, Who Died from Cancer.*

There was no clinical history of coronary heart disease, but a high degree of atherosclerotic narrowing of the lumen is apparent.

Case series: un esempio

- ✓ Prima del 1980 il sarcoma di Kasposi era un tumore molto raro negli USA
- ✓ 3 casi al New York Cancer Research Centre tra il 1960 ed il 1979
- ✓ La polmonite da *Pneumocystis Carinii* era rarissima se non in casi di immunodeficienza
- ✓ Possono essere il primo indizio di una nuova malattia di effetti nocivi di un' esposizione o di efficacia di un trattamento
- ✓ Ottobre 1980 – maggio 1981
- ✓ 5 giovani omosessuali ricoverati in tre ospedali di Los Angeles per polmonite da *Pneumocystis Carinii*
- ✓ Luglio 1981
- ✓ 26 casi di sarcoma di Kaposi in omosessuali a New York e in California
- ✓ Agosto 1981
- ✓ 108 casi di sarcoma di Kaposi e *Pneumocystis Carinii*, di cui 96 in omosessuali

Case series: un esempio

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MMWR

Weekly

June 18, 1982 / 31(23);305-7

A Cluster of Kaposi's Sarcoma and Pneumocystis carinii Pneumonia among Homosexual Male Residents of Los Angeles and range Counties, California

In the period June 1, 1981-April 12, 1982, CDC received reports of 19 cases of biopsy-confirmed Kaposi's sarcoma (KS) and/or Pneumocystis carinii pneumonia (PCP) among previously healthy homosexual male residents of Los Angeles and Orange counties, California. Following an unconfirmed report of possible associations among cases in southern California, interviews were conducted with all 8 of the patients still living and with the close friends of 7 of the other 11 patients who had died.

Data on sexual partners were obtained for 13 patients, 8 with KS and 5 with PCP. For any patient to be considered as a sexual contact of another person, the reported exposures of that patient had to be either substantiated or not denied by the other person involved in the relationship (or by a close friend of that person).

Within 5 years of the onset of symptoms, 9 patients (6 with KS and 3 with PCP) had had sexual contact with other patients with KS or PCP. Seven patients from Los Angeles County had had sexual contact with other patients from Los Angeles County, and 2 from Orange County had had sexual contact with 1 patient who was not a resident of California. Four of the 9 patients had been exposed to more than 1 patient who had KS or PCP. Three of the 6 patients with KS developed their symptoms after sexual contact with persons who already had symptoms of KS. One of these 3 patients developed symptoms of KS 9 months after sexual contact, another patient developed symptoms 13 months after contact, and a third patient developed symptoms 22 months after contact.

The other 4 patients in the group of 13 had no known sexual contact with reported cases. However, 1 patient with KS had an apparently healthy sexual partner in common with 2 persons with PCP; 1 patient with KS reported having had sexual contact with 2 friends of the non-Californian with KS; and 2 patients with PCP had most of their anonymous contacts (greater than or equal to 80%) with persons in bathhouses attended frequently by other persons in Los Angeles with KS or PCP.

Case series: un esempio

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ORIGINAL ARTICLE ARCHIVE

Pneumocystis carinii Pneumonia and Mucosal Candidiasis in Previously Healthy Homosexual Men — Evidence of a New Acquired Cellular Immunodeficiency

Michael S. Gottlieb, M.D., Robert Schroff, Ph.D., Howard M. Schanker, M.D., Joel D. Weisman, D.O., Peng Thim Fan, M.D., Robert A. Wolf, M.D., and Andrew Saxon, M.D.

N Engl J Med 1981; 305:1425-1431 | December 10, 1981 | DOI: 10.1056/NEJM198112103052401

Share:

http://www.nejm.org/doi/full/10.1056/NEJM198112103052401

Case series: un esempio

Case Report

Pneumothorax, music and balloons: A case series

Shiferaw Dejene, Fahim Ahmed[1], Kastelik Jack, Arnorld Anthony

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Submission: 30-08-2012
Accepted: 19-09-2012

Abstract:

We describe two cases of spontaneous pneumothorax in young healthy adults with no underlying structural lung disease. The onset of pneumothorax was following physical activity including playing musical instruments and blowing of balloons. There is sparse data evaluating the pathophysiology of primary spontaneous pneumothorax in relation to increased mouth pressures. These cases highlight the possible physical effect of valsalva manoeuvre on transpulmonary pressures, and the potential risk of developing pneumothorax in otherwise healthy individuals. This aspect of pneumothorax development is worthy of further exploration, to better elucidate the mechanism and enhance our understanding of this common respiratory presentation.

Key words:

Musical/wind instruments, spontaneous pneumothorax, valsalva

The term 'pneumothorax' was first described by Itard and Laennec in 1803 and 1819 respectively. It is classified into two broad categories, primary and secondary. Primary spontaneous pneumothorax (PSP) occurs in patients with no underlying pulmonary disease. It is a significant global health problem with an estimated annual incidence of 24/100,000 for men and 6/100,000 for women.[1] The pathogenesis of

high mouth pressures and possibly increased intra-thoracic pressure. He had never smoked and denied the use of illicit drugs and was not on any regular medications.

On physical examination, he was haemodynamically stable with oxygen saturations of 99% breathing room air with a respiratory rate of 16 per minute. The systemic

Tipologie di studi epidemiologici e farmacoepidemiologici (parte 2)

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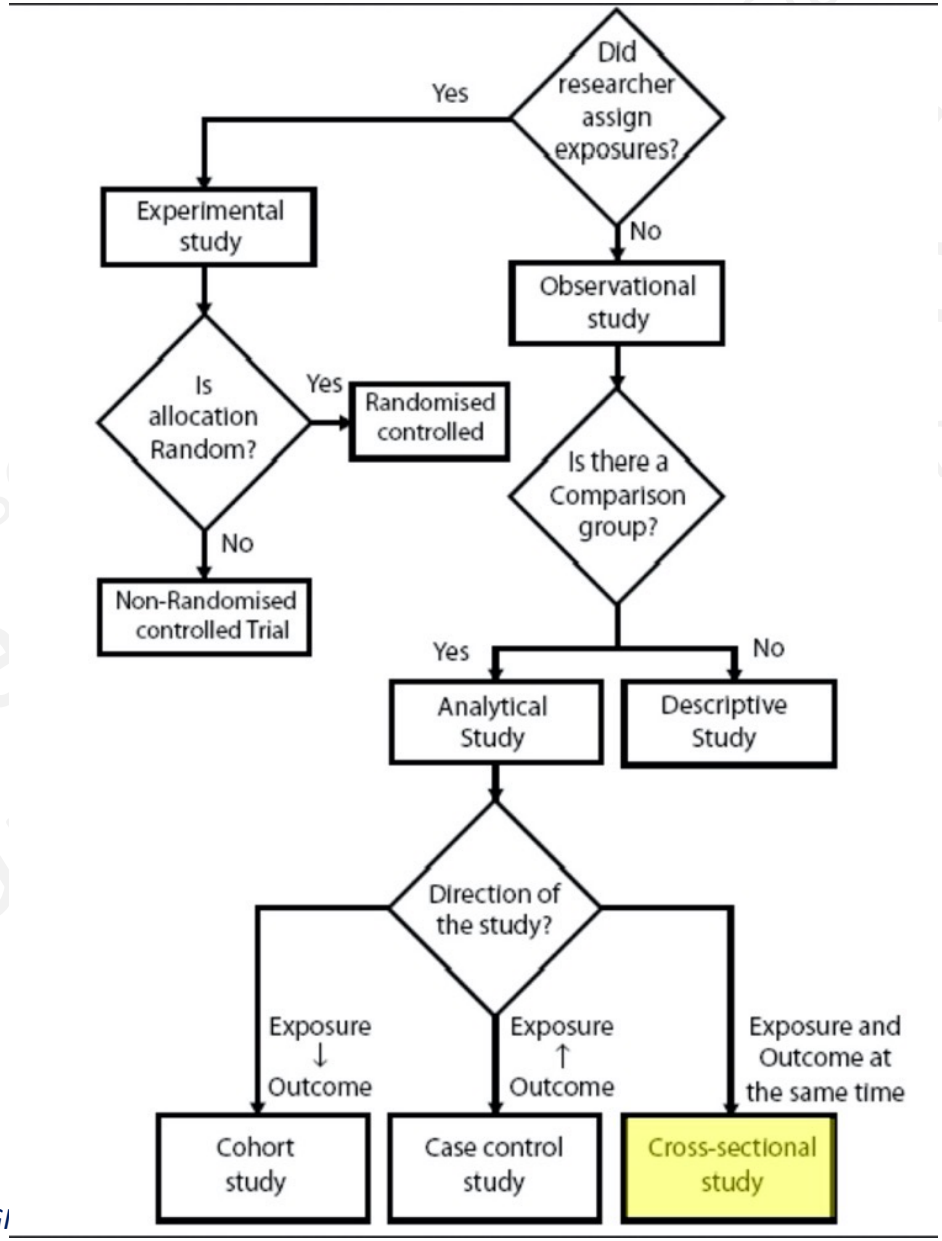
Studi trasversali o cross sectional



Studi trasversali o cross sectional

- Descrizione della frequenza dei fenomeni di salute-malattia e dei fattori ad essi correlati in un determinato istante, che non è necessariamente lo stesso per tutti gli individui (es. prevalenza di malformazioni congenite)
  - in un determinato istante (➔ **calcolo prevalenza**, non incidenza perché non prende in considerazione il tempo di esposizione dei soggetti)

- A seconda dell'obiettivo possono essere considerati come
  - Studi descrittivi (surveys)
  - Studi eziologici (➔ costruttivi, confrontando la prevalenza di malattia nei sottogruppi IDENTIFICATI di individui con diversa esposizione)

Studi trasversali o cross sectional

Open Access Research

BMJ Open

Perceived barriers to leisure time physical activity in adults with type 2 diabetes attending primary healthcare in Oman: a cross-sectional survey

Thamra Alghafri,[1,2] Saud M Alharthi,[1] Yahya Mohd Al Farsi,[3] Elaine Bannerman,[4] Angela Mary Craigie,[4] Annie S Anderson[4]

ABSTRACT

Objectives Physical activity is fundamental in diabetes management for good metabolic control. This study aimed to identify barriers to performing leisure time physical activity and explore differences based on gender, age, marital status, employment, education, income and perceived stages of change in physical activity in adults with type 2 diabetes in Oman.

Design Cross-sectional study using an Arabic version of the 'Barriers to Being Active' 27-item questionnaire.

Setting Seventeen primary health centres randomly selected in Muscat.

Participants Individuals>18 years with type 2 diabetes, attending diabetes clinic for >2 years and with no contraindications to performing physical activity.

Primary and secondary outcome measures Participants were asked to rate how far different factors influenced their physical activity under the following categories: fear of injury, lack of time, social support, energy, willpower, skills, resources, religion and environment. On a scale of 0–9, barriers were considered important if scored ≥5.

Results A total of 305 questionnaires were collected. Most (96%) reported at least one barrier to performing leisure time physical activity. Lack of willpower (44.4%), lack of resources (30.5%) and lack of social support (29.2%) were the most frequently reported barriers. Using χ^2 test, lack of willpower was significantly different in individuals with low versus high income (54.2%vs40%, P=0.002) and in those reporting inactive versus active stages of change for physical activity (50.7%vs34.7%, P=0.029), lack of resources was significantly different in those with low versus high income (40%vs24.3%, P=0.004) and married versus unmarried (33.8%vs18.5%, P=0.018). Lack of social support was significant in females versus males (35.4%vs20.8%, P=0.005).

Conclusions The findings can inform the design on physical activity intervention studies by testing the impact of strategies which incorporate ways to address reported barriers including approaches that enhance self-efficacy and social support.

Strengths and limitations of this study

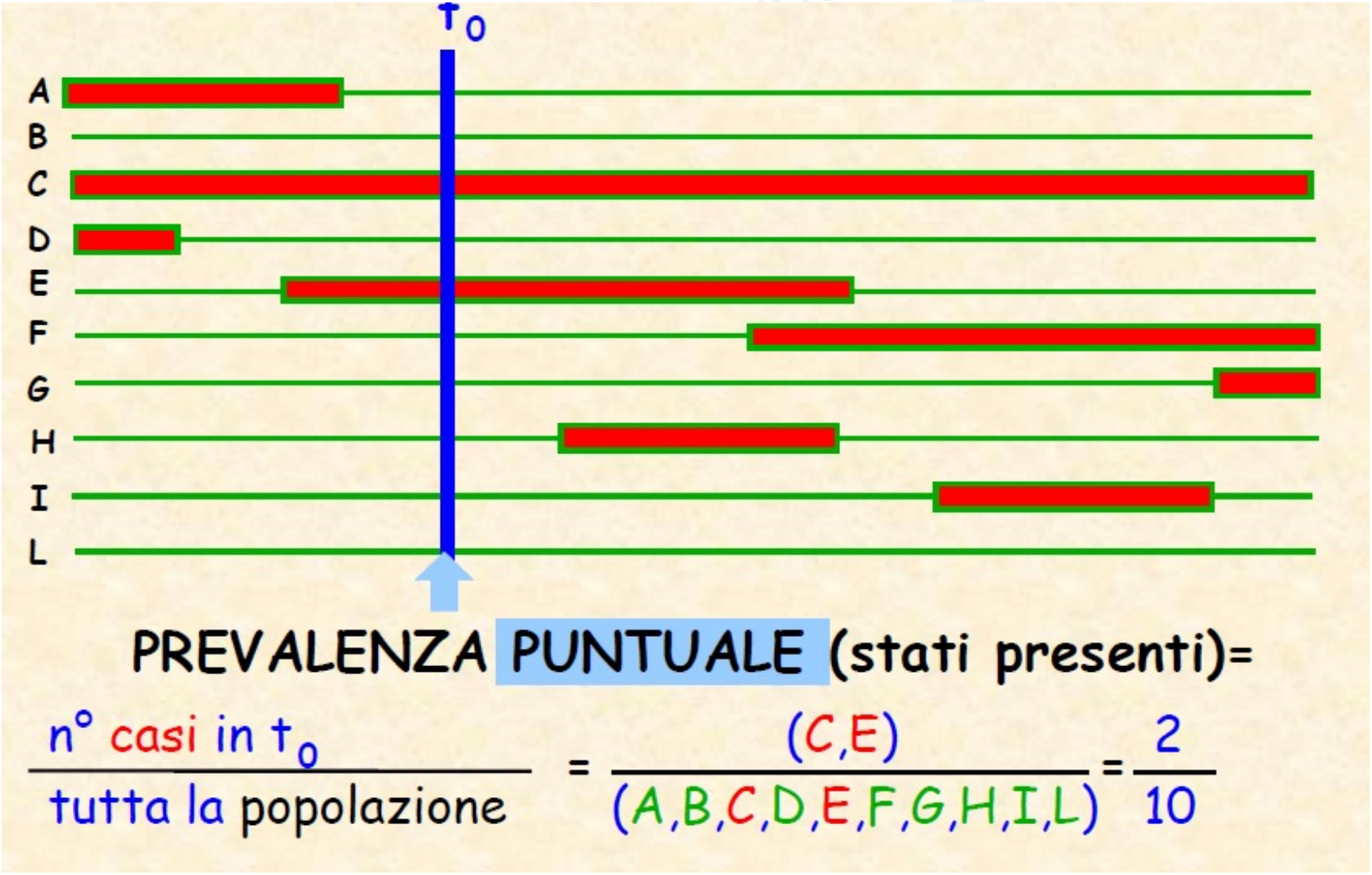
- Barriers to performing leisure physical activity for adults with type 2 diabetes were investigated in Oman, where prevalence of both diabetes and physical inactivity is high.
- Questions on possible barriers to performing physical activity linked to religion and environment were included.
- The tool used in this study was an English to Arabic language translated questionnaire that may have affected the validity of questions.

INTRODUCTION

Arab Emirates, Saudi Arabia, Qatar, Bahrain and Kuwait), Oman has witnessed enormous economic advancement in recent decades, along with significant increases in non-communicable diseases including a rising prevalence of diabetes. Diabetes prevalence in Oman has increased from 8.3% in 1991 to 12.3% in 2008, and recent estimates are in the order of 14.8%, exceeding global rates.[1 2] WHO has indicated that physical inactivity is one of the top 10 leading global causes of mortality and disability worldwide, and the principal cause for approximately 27% of diabetes and approximately 30% of ischaemic heart disease.[3] In Oman, it has been reported that almost 70% of the population are physically inactive (daily activity of ≤10 min).[4] This raises concerns regarding the impact these high levels of physical inactivity may be having on lifestyle-related chronic diseases including diabetes on healthcare expenditures and overall population health.[5]

The protective effects of physical activity (PA) in the management of diabetes, specifically type 2 diabetes (T2D), have been widely reported.[6 7] WHO recommends at

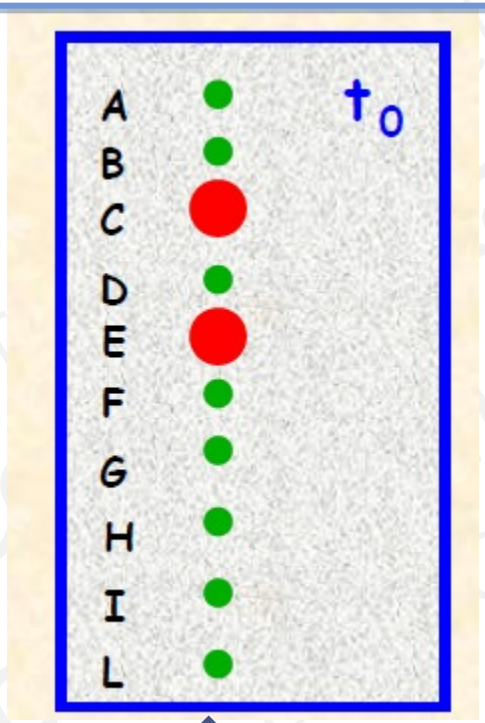
Studi trasversali o cross sectional



PREVALENZA PUNTUALE (stati presenti)=

$$\frac{\text{n° casi in } t_0}{\text{tutta la popolazione}} = \frac{(C,E)}{(A,B,C,D,E,F,G,H,I,L)} = \frac{2}{10}$$

Studi trasversali o cross sectional



PREVALENZA PUNTUALE

$$\frac{\text{n° casi in } t_0}{\text{tutta la popolazione}} = \frac{(C,E)}{(A,B,C,D,E,F,G,H,I,L)} = \frac{2}{10}$$

Studi trasversali o cross sectional

VARIABILI INDAGATE

- Illustrare il quadro della distribuzione delle varie malattie in rapporto a spazio, tempo e caratteristiche individuali

- caratteri che descrivono **il luogo** nel quale si è verificata la malattia
  - ✓ I casi sono egualmente distribuiti in relazione al paese, regioni, province, comuni ? (**John Snow, Regioni**)
- caratteri che descrivono **il tempo** durante il quale le persone sono state affette dalla malattia
  - ✓ c' è una inusuale caratteristica della distribuzione dei casi per anno, mese, giorno oppure ora della comparsa? (**patologie stagionali**)
- caratteri che descrivono **le persone** affette
  - ✓ età, sesso, gruppo etnico, occupazione, scolarità, livello socioeconomico (**Report**)

Studi trasversali o cross sectional

FONTI di DATI

- Schede di morte
- Notifiche malattie infettive
- Registri di patologia(tumori...)
- Schede di dimissione ospedaliera (SDO)
- Dati demografici (natalità, dati censimentari e di movimenti della popolazione)
- Altro

Studi trasversali o cross sectional

- Gli studi trasversali sono relativamente facili da condurre e sono utili per valutare l'effetto di quelle esposizioni che sono caratteristiche fisse degli individui
  - etnia
  - gruppo sanguigno
  - caratteristiche genetiche
- Poiché esposizione e malattia sono rilevati nello stesso istante in molti casi non è possibile stabilire se l'esposizione ha preceduto la malattia
- Poiché vengono studiati i casi prevalenti e non quelli incidenti, i dati ottenuti rifletteranno sempre i determinanti della prevalenza, oltre agli eventuali fattori causali

Studi trasversali o cross sectional

VANTAGGI

- Misurano la prevalenza
- Facili da realizzare
- Non è richiesto un periodo di follow-up né è necessario selezionare un gruppo di controllo (nei descrittivi)
- Breve durata
- Costi limitati
- Valido per generare ipotesi
- L'informazione sull'esposizione attuale è spesso migliore rispetto al ricordo di una esposizione passata
- Possono consentire un'iniziale valutazione dell'associazione esposizione-effetto (con il calcolo di misure di rischio OR o RR)
- Se il campionamento è corretto i risultati di prevalenza sono generalizzabili all'intera popolazione

Studi trasversali o cross sectional

SVANTAGGI

- Non consentono il calcolo dell' incidenza
- Non è valutabile il TEMPO dell' esposizione (se l' esposizione ha preceduto la malattia… viene rilevata contemporaneamente all' effetto)
- Vengono studiati i casi prevalenti e non quelli incidenti… i dati ottenuti rifletteranno sempre i determinanti della prevalenza, oltre agli eventuali fattori causali

Studi trasversali o cross sectional: esempi

Immaginiamo di voler studiare la relazione tra **luogo di lavoro rumoroso** (esposizione) e **sordità** (effetto)

Se troviamo un'associazione tra le due variabili, vuol dire che l'esposizione è una causa dell'effetto ?

Alcuni lavoratori, una volta diventati sordi potrebbero aver ottenuto un nuovo lavoro, meno rumoroso e quindi, al momento dello studio di prevalenza, risultare non esposti ad un luogo rumoroso

La prevalenza di sordità sarà più bassa nel luogo rumoroso e più alta nel luogo non rumoroso

–

Si avrà quindi una sottostima del rischio associato all'esposizione

Potrebbe anche avvenire che solo i lavoratori con un certo grado di sordità ottengano posti di lavoro rumorosi, mentre i lavoratori "sani" potrebbero tendere ad evitare questi mestieri

La prevalenza di sordità sarà più alta nel luogo rumoroso e più bassa nel luogo non rumoroso

–

Si avrà quindi una sovrastima del rischio associato all'esposizione

Studi DESCRITTIVI: vantaggi e svantaggi

✧ VANTAGGI

- Dati già raccolti, facilmente accessibili e spesso già elaborati
- In paesi con validi sistemi di raccolta centrali sono molto attendibili (soprattutto i dati di mortalità)
- L'uso di classificazioni standard facilita i confronti anche a livello internazionale

✧ SVANTAGGI

- Dati individuali quasi mai disponibili
- Difficilmente si possono vagliare ipotesi eziologiche specifiche
- Talora non si conoscono con esattezza i denominatori adeguati
- Lunghi tempi di latenza tra raccolta ed elaborazione

Studi DESCRITTIVI: vantaggi e svantaggi

- Alcuni paesi conducono regolari indagini trasversali su campioni rappresentativi della popolazione rivelando:
  - Caratteristiche socio demografiche
  - Malattie
  - Abitudini collegate alla salute
  - Ricorsi ai servizi sanitari
- I dati possono risultare utili nel valutare la necessità di assistenza sanitaria della popolazione
- In Italia l' ISTAT realizza periodicamente indagini campionarie sul Condizioni di Salute e Ricorso ai Servizi sanitari
- Nel 1999-2000 sono state intervistate 52332 famiglie residenti in Italia per un totale di 140.011 soggetti

Studi COSTRUTTIVI o ANALITICI

- Trasversali (eziologici)
- Caso-controllo
- Coorte

Studi COSTRUTTIVI o ANALITICI

- **Studi trasversali:** Indagini istantanee su intere popolazioni o campioni per valutare la frequenza e la distribuzione delle variabili
- **Studi ecologici:** Analisi di dati aggregati riferiti a incidenza/prevalenza mortalità e distribuzione dei fattori di rischio

Studi TRASVERSALI EZIOLOGICI: esempio

Obiettivo:

Studiare l' associazione tra l' assunzione di alcuni nutrienti (verdure, pesce, pollame, latte,…) ed escrezione urinaria di glucosio

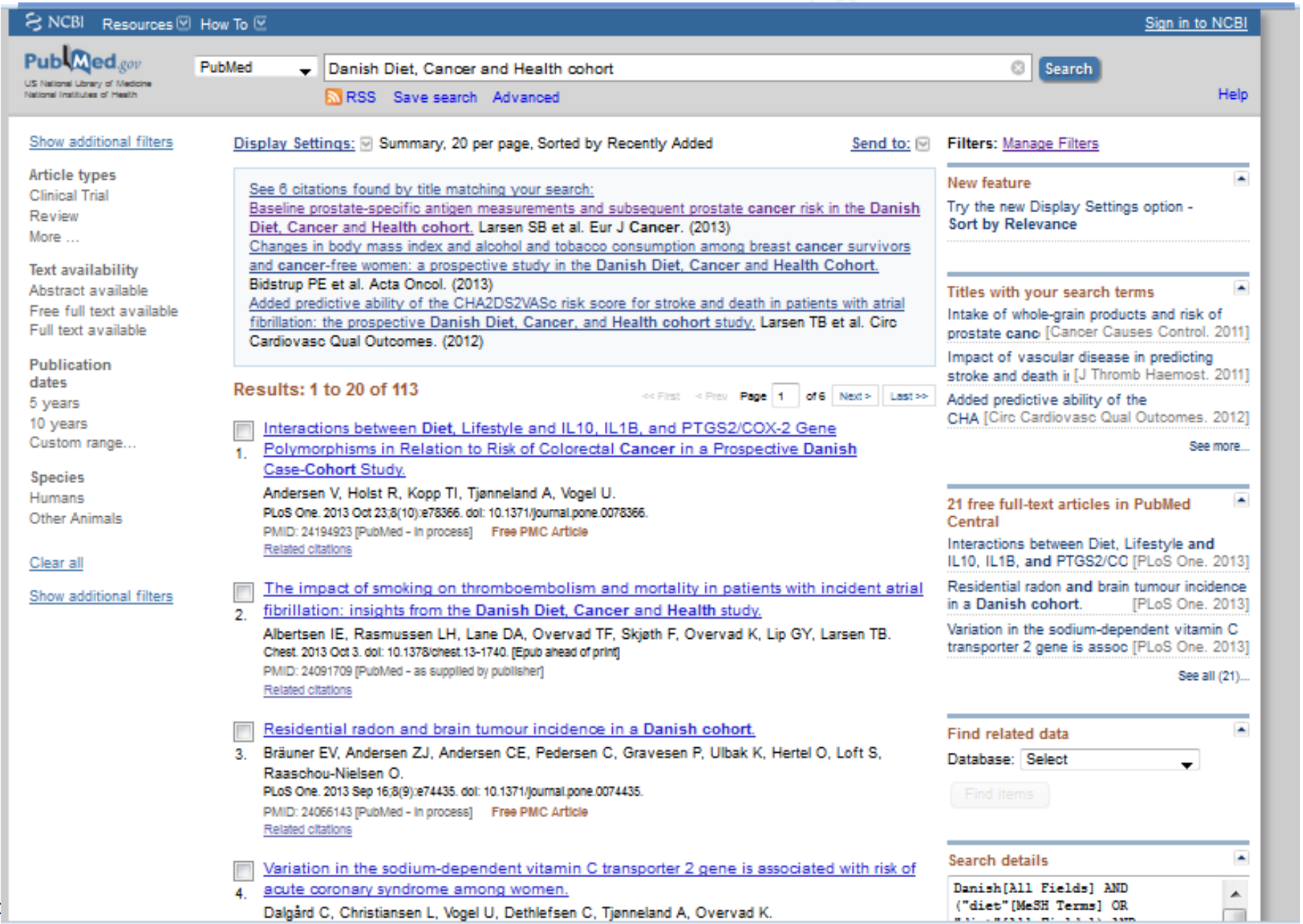
Disegno dello studio:

Studio trasversale, Danimarca 1993-1997

Partecipanti:

Soggetti arruolati nello studio Danese "Diet, Cancer and health" (14.473 M e 18.064 F di età = 50-64)

Studi TRASVERSALI EZIOLOGICI: esempio



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Baseline prostate-specific antigen measurements and subsequent prostate cancer risk in the Danish Diet, Cancer and Health cohort. Larsen SB et al. Eur J Cancer. (2013)
Changes in body mass index and alcohol and tobacco consumption among breast cancer survivors and cancer-free women: a prospective study in the Danish Diet, Cancer and Health Cohort. Bidstrup PE et al. Acta Oncol. (2013)
Added predictive ability of the CHA2DS2VASc risk score for stroke and death in patients with atrial fibrillation: the prospective Danish Diet, Cancer, and Health cohort study. Larsen TB et al. Circ Cardiovasc Qual Outcomes. (2012)

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1. Interactions between Diet, Lifestyle and IL10, IL1B, and PTGS2/COX-2 Gene Polymorphisms in Relation to Risk of Colorectal Cancer in a Prospective Danish Case-Cohort Study.
Andersen V, Holst R, Kopp TI, Tjønneland A, Vogel U.
PLoS One. 2013 Oct 23;8(10):e78366. doi: 10.1371/journal.pone.0078366.
PMID: 24194923 [PubMed - in process] Free PMC Article
Related citations

2. The impact of smoking on thromboembolism and mortality in patients with incident atrial fibrillation: insights from the Danish Diet, Cancer and Health study.
Albertsen IE, Rasmussen LH, Lane DA, Overvad TF, Skjøth F, Overvad K, Lip GY, Larsen TB.
Chest. 2013 Oct 3. doi: 10.1378/chest.13-1740. [Epub ahead of print]
PMID: 24091709 [PubMed - as supplied by publisher]
Related citations

3. Residential radon and brain tumour incidence in a Danish cohort.
Bräuner EV, Andersen ZJ, Andersen CE, Pedersen C, Gravesen P, Ulbak K, Hertel O, Loft S, Raaschou-Nielsen O.
PLoS One. 2013 Sep 16;8(9):e74435. doi: 10.1371/journal.pone.0074435.
PMID: 24066143 [PubMed - in process] Free PMC Article
Related citations

4. Variation in the sodium-dependent vitamin C transporter 2 gene is associated with risk of acute coronary syndrome among women.
Dalgård C, Christiansen L, Vogel U, Dethlefsen C, Tjønneland A, Overvad K.

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Intake of whole-grain products and risk of prostate canc [Cancer Causes Control. 2011]
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Added predictive ability of the CHA [Circ Cardiovasc Qual Outcomes. 2012]
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Studi TRASVERSALI EZIOLOGICI: esempio

National Institutes of Health

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Scand J Public Health. 2007;35(4):432-41.

Study design, exposure variables, and socioeconomic determinants of participation in Diet, Cancer and Health: a population-based prospective cohort study of 57,053 men and women in Denmark.

Tjønneland A[1], Olsen A, Boll K, Stripp C, Christensen J, Engholm G, Overvad K.

Author information

Abstract

AIMS: Diet is considered an important aspect of lifestyle related to cancer development. To contribute further knowledge within this field a Danish prospective cohort study "Diet, Cancer and Health" has been initiated. The aims of this paper are to give a description of the study design, measurement procedures, and differences between participants and non-participants with special reference to socioeconomic characteristics.

METHODS: A total of 160,725 individuals 50-64 years of age living in Copenhagen or Aarhus were invited to participate. Information concerning diet and other lifestyle factors was obtained from 57,053 participants using questionnaires and interviews. Anthropometric measurements were taken and biological material collected. In addition, detailed (selected) socioeconomic information on all invited persons including 103,671 non-participants was obtained from statistical registers in Statistics Denmark.

RESULTS: Differences were seen between participants and non-participants on a number of socioeconomic factors. The highest participation in relation to education was found among participants with higher education, with a significant tendency to be highest in the second highest level of higher education (3-4 years). Married people were more likely to participate than persons living alone or cohabiting.

CONCLUSION: Results from the prospective cohort study "Diet, Cancer and Health" support the general assumption that lower socioeconomic groups are underrepresented in epidemiological studies.

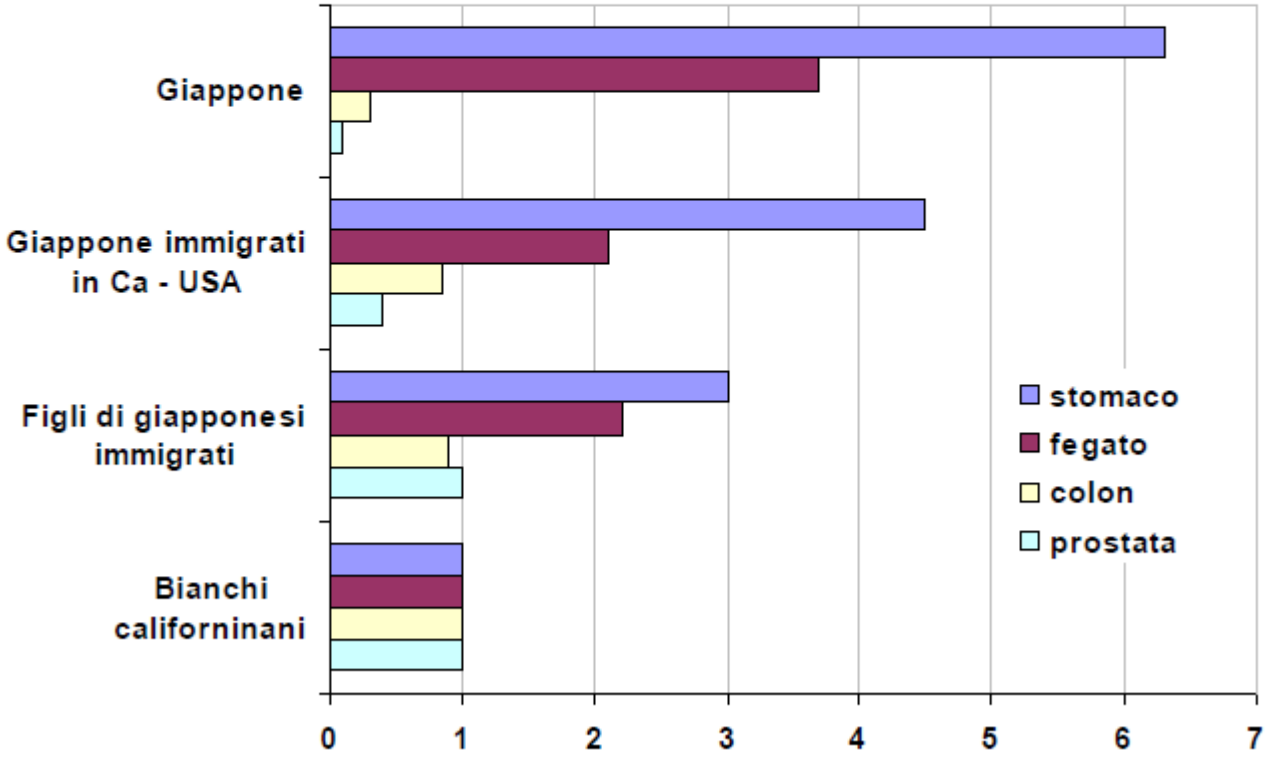
PMID: 17786808 [PubMed - indexed for MEDLINE]

Studi ECOLOGICI

- Valutano l'associazione fra esposizione ed effetto ed analizzano la corrispondenza dei due fenomeni in diverse aree geografiche o intervalli di tempo

CANCEROGENESI

Influenza di componenti ambientali sull'eziologia del cancro. Incidenza espressa come rapporto tra il tasso di mortalità nelle popolazioni considerate rispetto a una popolazione di bianchi californiani con la stessa distribuzione di età.



Studi ECOLOGICI

✧ VANTAGGI

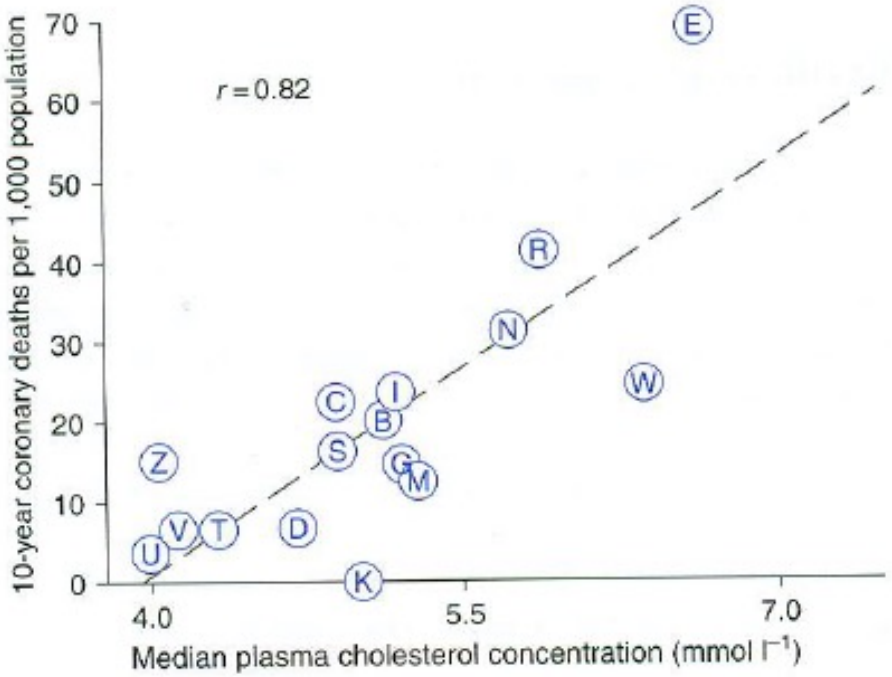
- Sono rapidi
- Sono validi per generare ipotesi
- Consentono un iniziale valutazione dell' associazione esposizione-effetto

✧ SVANTAGGI

- È molto difficile il controllo delle variabili di confondimento
- I dati considerati non sono individuali! Ma raccolti a livello di popolazione (nazione, regione, provincia etc.)… più grande è l' aggregrazione geografica più difficile è controllare le variabili di confondimento

Studi ECOLOGICI

Figure 2.1 Relationship between the median serum cholesterol concentration and 10-year mortality from CHD in 16 cohorts of men in the Seven Countries Study.



Source: Keys (1980).
Notes: B = Belgrade (Yugoslavia, formerly Serbia); D = Dalmatia (Yugoslavia, formerly Croatia); E = East Finland; G = Corfu; I = Italian railroad; K = Crete; N = Zutphen (the Netherlands); T = Tanushimaru (Japan); R = American railroad; U = Ushibuka (Japan); V = Velike Krsna (Yugoslavia, formerly Serbia); W = West Finland; Z = Zrenjanin (Yugoslavia). Add C = Crevalcore (Italy); M = Montegiorgio (Italy); S = Slavonia (Yugoslavia, formerly Croatia).