AFeVA Emilia Romagna

Lotte e Amianto: sofferenza, coinvolgimento, impegno: Uno sguardo transnazionale

Incontro pubblico - 8 giugno 2017
Sala G. Fanti – Regione Emilia Romagna ”

Benedetto Terracini

Epidemiologia ambientale: ricerca sulle vittime oppure con le vittime?

Le fasi della gestione del rischio che si sono succedute nel tempo

Tutto quel che dobbiamo fare è …….

- **… produrre i numeri giusti.**
- **… rendere pubblici i numeri**
- **… spiegare cosa intendiamo dire attraverso i numeri.**
- **… dimostrare che il pubblico ha già accettato rischi simili.**
- **… dimostrare alla gente che è un buon affare per loro.**
- **… trattare il pubblico gentilmente.**
- **… rendere il pubblico partner.**

Fischhof 1995

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BRIEF COMMUNICATION

Bladder Cancer Mortality of Workers Exposed to Aromatic Amines: A 58-Year Follow-up

Enrico Pira, Giorgio Piolatto, Eva Negri, Canzio Romano, Paolo Boffetta, Loren Lipworth, Joseph K. McLaughlin, Carlo La Vecchia

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Correspondence to: Loren Lipworth, ScD, International Epidemiology Institute, 1455 Research Blvd, Ste 550, Rockville, MD 20850 (e-mail: loren@iei.us).

We previously investigated bladder cancer risk in a cohort of dyestuff workers who were heavily exposed to aromatic amines from 1922 through 1972. We updated the follow-up by 14 years (through 2003) for 590 exposed workers to include more than 30 years of follow-up since last exposure to aromatic amines. Expected numbers of deaths from bladder cancer and other causes were computed by use of national mortality rates from 1951 to 1980 and regional mortality rates subsequently. There were 394 deaths, compared with 262.7 expected (standardized mortality ratio = 1.50, 95% confidence interval = 1.36 to 1.66). Overall, 56 deaths from bladder cancer were observed, compared with 3.4 expected (standardized mortality ratio = 16.5, 95% confidence interval = 12.4 to 21.4). The standardized mortality ratio for bladder cancer increased with younger age at first exposure and increasing duration of exposure. Although the standardized mortality ratio for bladder cancer steadily decreased with time since exposure stopped, the absolute risk remained approximately constant at 3.5 deaths per 1000 man-years up to 29 years after exposure stopped. Excess risk was apparent 30 years or more after last exposure.

J Natl Cancer Inst 2010;102:1096–1099

Aromatic amines are a group of well-known bladder carcinogens. Exposure to aromatic amines has been discontinued in most countries, but relatively little data are available on the patterns of long-term health risks many years after cessation of exposure (1,2–8). A substantial excess of mortality from bladder cancer was observed in a cohort of 664 workers who were heavily exposed to aromatic amines between 1922 and 1972 in a dyestuff factory in northern Italy (2–4). In the most recent published follow-up of this cohort through December 1989, 49 bladder cancer–specific deaths were observed overall, compared with 1.6 expected (standardized mortality ratio [SMR] = 30.4) (4). In more detailed analyses by time of exposure, risk was still elevated (SMR = 14.8; seven deaths vs 0.5 expected) 20 years or more after exposure stopped. Along with two other studies, one in the United States (5) and one in Wales (6), this cohort study is among the few providing information on bladder cancer risk after exposure specifically to *o*-toluidine.

In this analysis, we included an additional 14 years of observation of this Italian cohort through 2003 by including more than 30 years of follow-up since last exposure to aromatic amines for all workers to provide unique, long-term information on bladder cancer risk among workers after extremely heavy exposure to several aromatic amines many years in the past.

Further details on the study methods, including exposure definition, have been previously published (2–4). The original cohort definition was approved in the 1970s by the Institutional Board of the Department of Occupational Health, University of Turin, according to the regulations at the time. The study did not involve direct contact with the workers. Briefly, the original cohort was composed of 906 men who had worked at least 1 year in the dyestuff plant between 1922 and 1972 and who were alive in 1946. We did not consider 204 men who were not directly involved in jobs entailing exposure to aromatic amines because no deaths from bladder cancer were observed in this group (3) and because the expected number of deaths from bladder cancer was also low, and 112 men who had been lost to follow-up before December 31, 1989. This left 590 exposed workers; of these, 271 had died between 1946 and 1989, leaving 319 men for extended follow-up through December 31, 2003. Follow-up was truncated when a participant reached age 85 years because of the poor quality of death certification for those older than that age. We traced 305 (96%) of the 319 workers alive in 1989, yielding a total of 17 754 man-years at risk in this analysis.

Information was available on date and place of birth, dates of start and termination of employment, job history (including categories of exposure to selected amines), and the last known address. As described by Rubino et al. (2), who used knowledge of carcinogenicity of aromatic amines, workers with any of the following four categories of aromatic amine exposure were considered at highest risk and are grouped into one category for this analysis: α-naphthylamine manufacture, β-naththylamine manufacture, benzidine manufacture, and mixed manufacture of benzidine and naphthylamine (n = 133). The other three categories of workers included workers never involved in manufacture, but only in use of naphthylamine and benzidine (n = 134), workers with intermittent contact with naphthylamine and benzidine (n = 276), and workers who were involved only in manufacture of fuchsin or *o*-toluidine (n = 47). Ten workers exposed to both benzidine and/or naphthylamine and to fuchsin and/or *o*-toluidine manufacture were considered in the first category. For all time-related factors (duration and time since first or last exposure), we grouped all four categories of exposure together. Further verification of vital status was obtained from registries of current residence, and death certificates were obtained from registration offices at the municipality of death.

The expected numbers of deaths from bladder cancer and other causes were computed by use of national mortality rates (9) from 1951 to 1980 and regional mortality rates (10) when available (ie, from 1981 to 2003), stratified in 5-year age groups from

dalla sorveglianza ambientale alla vigilanza dal basso

Negli anni scorsi una formula che ci ha aiutato a capire il diverso punto di vista di epidemiologi e cittadini.
Ci ha aiutato a capire perché offrire conoscenza scientifica, anche la più rigorosa, non basta

R = H + O

dove

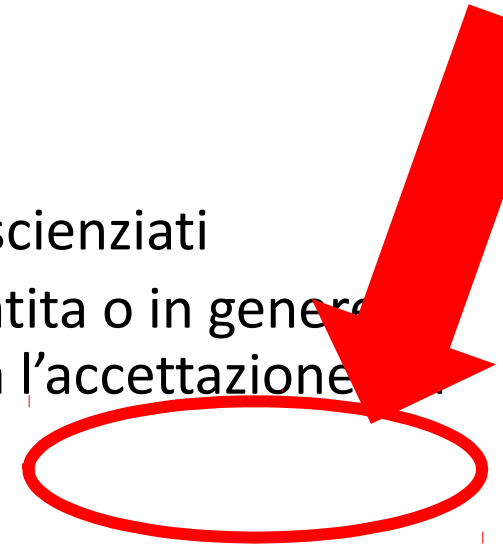
R è il rischio "percepito"

H (*hazard*) è il rischio misurato dagli scienziati

O (*outrage*) è il senso di ingiustizia patita o in genere presenza di valori che rendono critica l'accettazione del rischio

Sandman, 1987

1/4 di SECOLO



La formula rivista

$$R = \frac{H+O}{M \times T \times P}$$

-

M=monitoraggio
T=trasparenza
P=partecipazione

Luca Carra
Isde 2014

Imparzialità e non neutralità

L'opinione pubblica si attende che il professionista (in salute pubblica) sia:

- **imparziale, cioè prenda in considerazione con criteri uniformi tutta la evidenza disponibile sul problema sul quale deve decidere;**

- **non neutrale rispetto alla salute, cioè risolva l'incertezza residua dell'evidenza in senso favorevole alla salute della popolazione esposta.**

. Saracci, E&P 2014

Se le scelte politiche di politica sanitaria e della ricerca sono guidate dalla non neutralità, si tenderà a massimizzare la produzione di informazione rilevante per la salute piuttosto che informazione rilevante per altri aspetti della conoscenza.

R. Saracci, E&P 2014

DEFINTIONS OF PUBLIC HEALTH

1. **One of the efforts organized by society to protect, promote, and restore the people's health.**

2. **The science and art of preventing disease, prolonging life, and promoting health through organized efforts of society.**

3. **The combination of sciences, skills, and beliefs that is directed to the maintenance and improvement of the health of all the people through collective or social actions.**

International Epidemiological Association
A dictionary of epidemiology
Vth edition. M. Porta editor

Citizen Science, scientific citizenship

- The terms *citizen science* and *citizen scientists* entered the Oxford English Dictionary in June 2014.

- Citizen science is defined as *scientific work undertaken by members of the general public, often in collaboration with or under the direction of professional scientists and scientific institutions*

- Citizen scientists, in the modern sense, are defined as *a member of the general public who engages in scientific work, often in collaboration with or under the direction of professional scientists and scientific institutions; an amateur scientist.*

Dalla «comprensione pubblica della scienza» al «coinvolgimento pubblico nella scienza e tecnologia».

I diritti di cittadinanza scientifica: proteggere o promuovere i diritti?

- Informazione
  - Diritto di essere informati (Seveso Directives, Art. 17 Rio Declaration)
- Consenso e fiducia
  - Consultazione dei cittadini (GMOs Directive 2001)
  - Diritto all'informazione e partecipazione alle decisioni ambientali (Aarhus Convention 1998)
- Arricchimento dell'expertise (lay expert)
  - Conoscenza locale, indigena (Convention on Biodiversity 1992)
  - Coinvolgimento pubblico nella definizione delle questioni scientifiche (White Paper on Governance 2001)
- Peer-production of knowledge, collaborazione tra scienziati e cittadini
  - Pari produzione di conoscenza (DTC test, PM2.5 Firenze)
  - Condivisione delle responsabilita' (participatory surveillance)

Abbiamo cominciato a guardarci intorno: ci siamo resi conto che i

Nel frattempo il mondo e il modo di comunicare sono molto cambiati

In 3 parole:

1 Open data

2 Norme europee sulla partecipazione

3 Citizen science