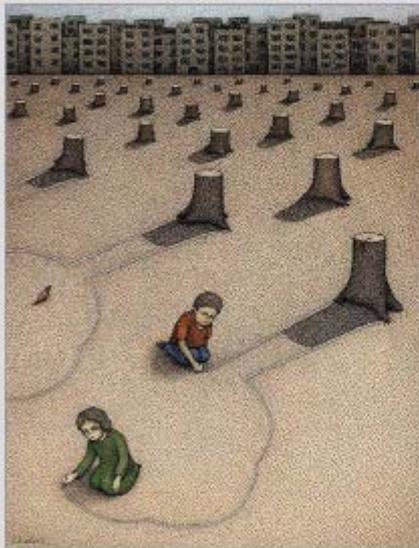


SI PUO' FARE

Le 4 P: pazienza, perseveranza, passione, piacere



*«consumo di oggetti culturali»
Dietro le quinte
dell'evidenza*

Roberto Buzzetti

Milano, 5 dicembre 2018

Auditorium S.Fedele - Via Hoepli 3/b

Cartesio e il ***dubbio metodico***

come mezzo per giungere alla verità



e non come fine a se stesso (dubbio scettico),

Dubitare di tutto:

- dei **sensi** (che ingannano),
- della **ragione** (che può sbagliare),
- dell'**esistenza della materia** (nel sogno crediamo che quello che vediamo e sentiamo sia reale),
- delle stesse **verità matematiche**: un demone maligno e potentissimo avrebbe potuto circondarci di inganni.

NOTA:

Cartesio limita il dubbio al solo dominio
speculativo,

“poichè per quanto riguarda la vita pratica, se noi volessimo, prima di agire, aver risolto tutti i nostri dubbi, bene spesso lasceremmo passare l'occasione dell'azione”.

INCERTEZZA

VS

INSICUREZZA



Ma pur dubitando di tutto,
non si può dubitare
di pensare, cioè di esistere:
cogito, ergo sum.

Il modello in epidemiologia



Il passaggio

- Dal determinismo al probabilismo
- Dalle CAUSE ai fattori di rischio

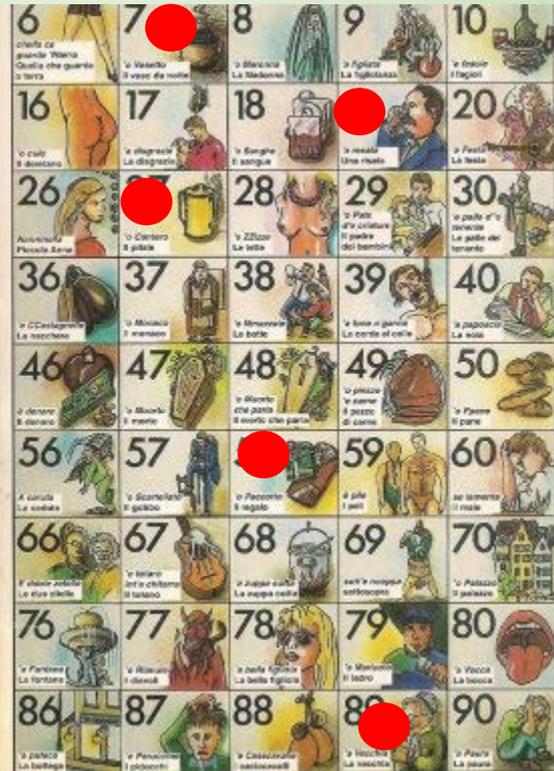
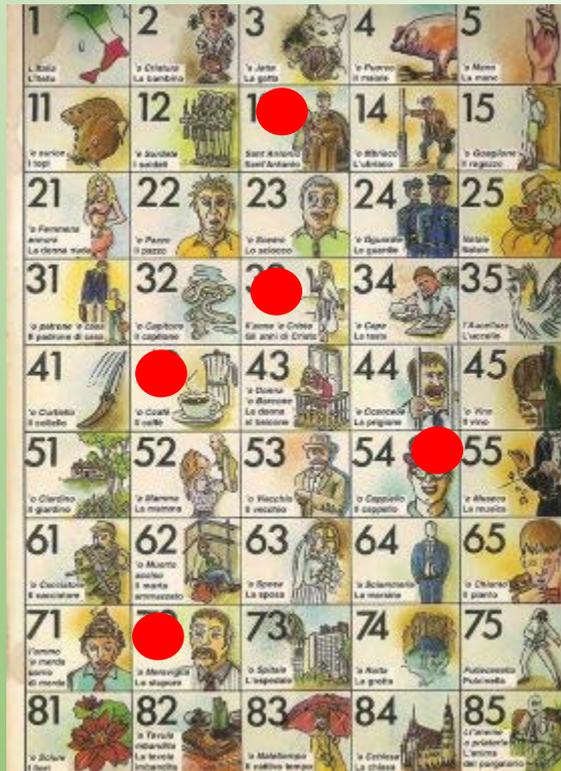
Se è destino...





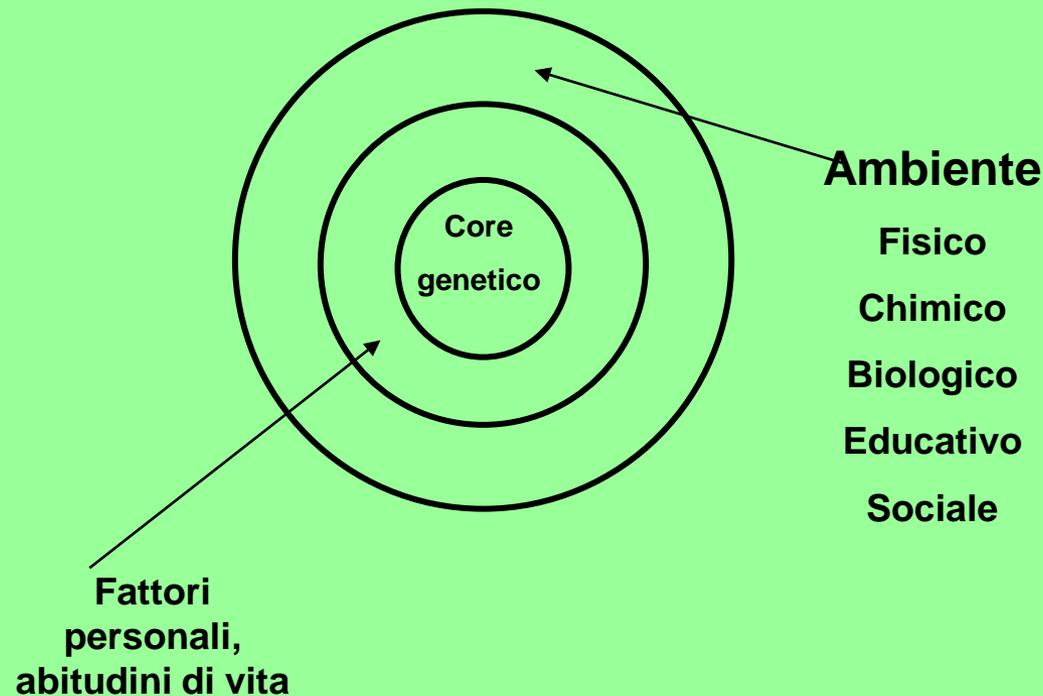
1 L'Italia L'Italia	2 v Cristoforo La bandiera	3 v Jaka La gatta	4 v Porro Il maiale	5 v Mena La mano
11 v merco Il topo	12 v Sordani I sandali	13 sant Antonio Sant'Antonio	14 v fibrato L'abito	15 v scopione Il ragazzo
21 v Fiammetta La donna nuda	22 v Piero Il disco	23 v Renato Lo sciacco	24 v Sguarato Le guardie	25 Natali Natali
31 v padrone Il padrone di casa	32 v Caporali Il capitano	33 v James o Cristo 66 anni di Cristo	34 v Capri La testa	35 v Zamboni L'uccello
41 v Curtella Il castello	42 v Coali Il caffè	43 v Gianni Le donne al balcone	44 v Concorsi La prigione	45 v vino Il vino
51 v Gianluigi Il giardino	52 v Blanesi La mamma	53 v Macchiai Il vecchio	54 v Cappello Il cappello	55 v Blanesi La musica
61 v Cacciatori Il cacciatore	62 v Macchi Il marito ammazzato	63 v Spiner La sposa	64 v Sciancato La mamma	65 v Chiaro Il piano
71 v Fermo Il mento Il mento	72 v Maravigli La stupore	73 v Spitali L'ospedale	74 v Acute La grovia	75 v Pulcinella Pulcinella
81 v Zolvi I fiori	82 v Farula L'arancia La ferocia L'arancia	83 v Malinconico Il cattivo tempo	84 v Estense La chiesa	85 v L'arancia L'arancia L'arancia del pagliaro

6 cristallo di quarzo Quello che guarda o terra	7 v Vesuto Il vaso da notte	8 v Marconi La macchina	9 v Figliato La figliolanza	10 v Deori L'agone
16 v culo Il desso	17 v algrani La diagnosi	18 v Sanghi Il sangue	19 v messi Una rivista	20 v Fazio La testa
26 v Anichini Pancia sana	27 v Cantoro Il pillole	28 v Zizzor La betta	29 v Fico d'aristocrazia Il padre del bambino	30 v padre d'aristocrazia Le padre del torante
36 v Conigliani La macchina	37 v Minico Il mamma	38 v Minoreni La botte	39 v fine o ganna La corteo del corteo	40 v Zappacò La sola
46 v denaro Il denaro	47 v Musulo Il morto	48 v Alcoro che pasta Il morto che parla	49 v piccolo v sanna Il pezzo di carne	50 v Panno Il pane
56 v carota La carota	57 v Scartellari Il gallo	58 v Picozzi Il regalo	59 v pile I petti	60 v tommare Il male
66 v Alcoro Le due occhi	67 v Isidoro int e ciffone Il italiano	68 v Juzzi cuffo La meglior vita	69 velli e mappo L'abbronzato	70 v Palazzo Il palazzo
76 v Fontana La fontana	77 v Ravanati I cavalli	78 v della figlia La bella figlia	79 v Marconi Il disco	80 v Vocca La bocca
86 v Zolvi La ballata	87 v Pannocchini I cadaveri	88 v Castelluccio L'abbronzato	89 v Nocci La macchina	90 v Petti La pizza



LE ESPOSIZIONI

Da che cosa dipende la salute? Il modello della ruota



Quante interdipendenze!

Determinanti della salute

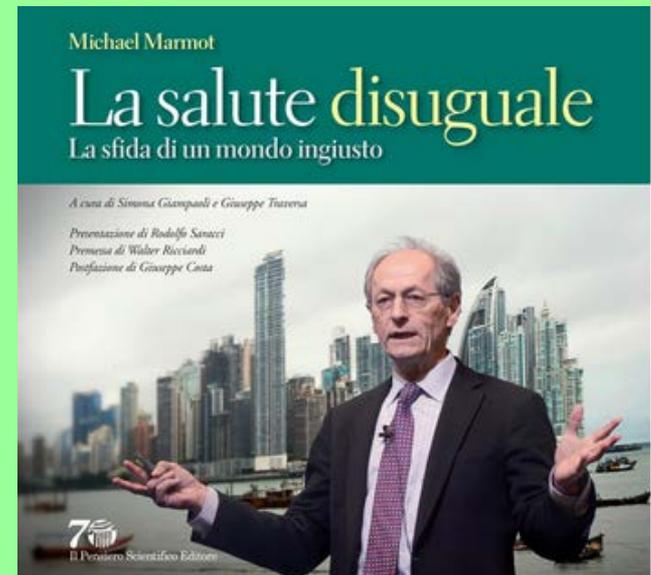
Da Wikipedia

- **i fattori socio-economici e gli stili di vita: 40-50%**
- **lo stato e le condizioni dell'ambiente: 20-30%**
 - **l'eredità genetica: 20-30%**
 - **i servizi sanitari: 10-15%.**

Prerequisiti della salute

Da Wikipedia (OMS)

- *la casa*
- *la pace*
- *l'istruzione*
- *il cibo*
- *il reddito e la continuità delle risorse*
- *la stabilità dell'ecosistema*
- *la giustizia e l'equità sociale*



#QUOTA100

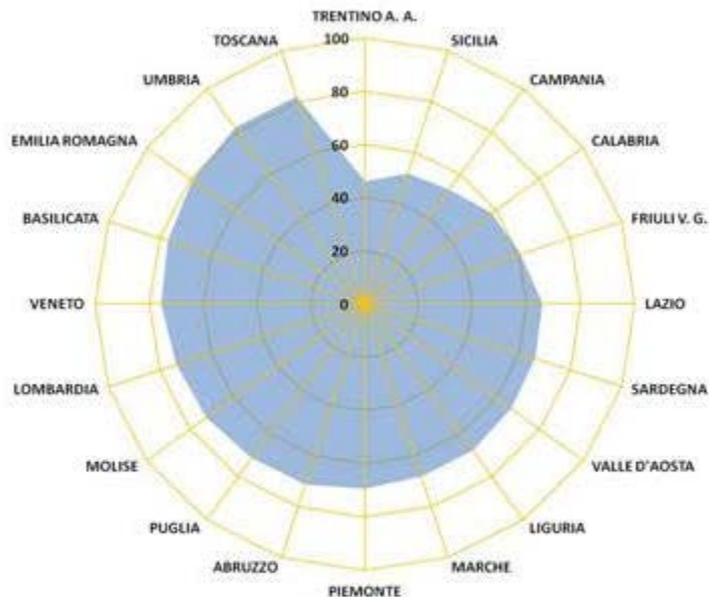
Tutte le adolescenti siano vaccinate
contro il papilloma virus che causa il
tumore della cervice uterina

Solo il 68% delle quindicenni
è vaccinato



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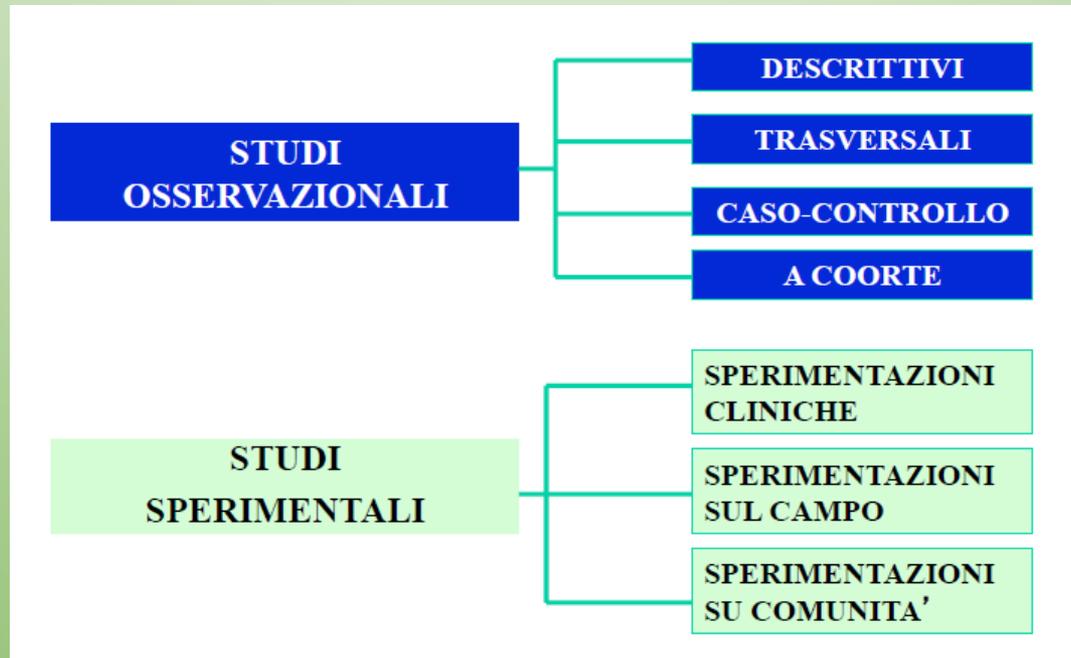
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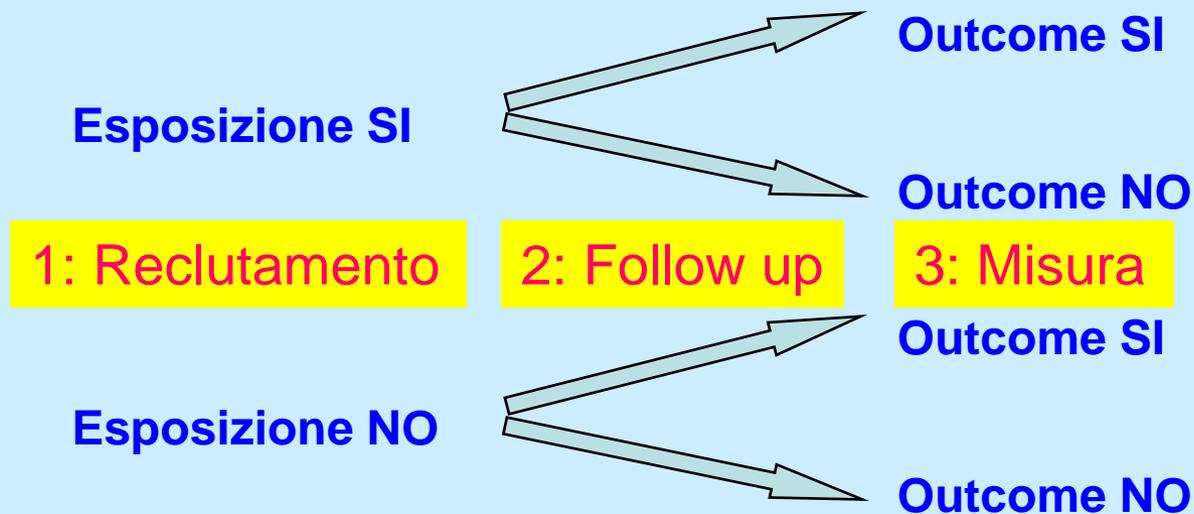
Fonte - Ministero della Salute Copertura al 31/12/2017. Coorte di nascita 2002 - Ciclo completo

QUOTA 100 NON SOLO PER L'USCITA DAL MONDO DEL LAVORO,
MA ANCHE PER ENTRARCI CON DIRITTO ED EQUITÀ!

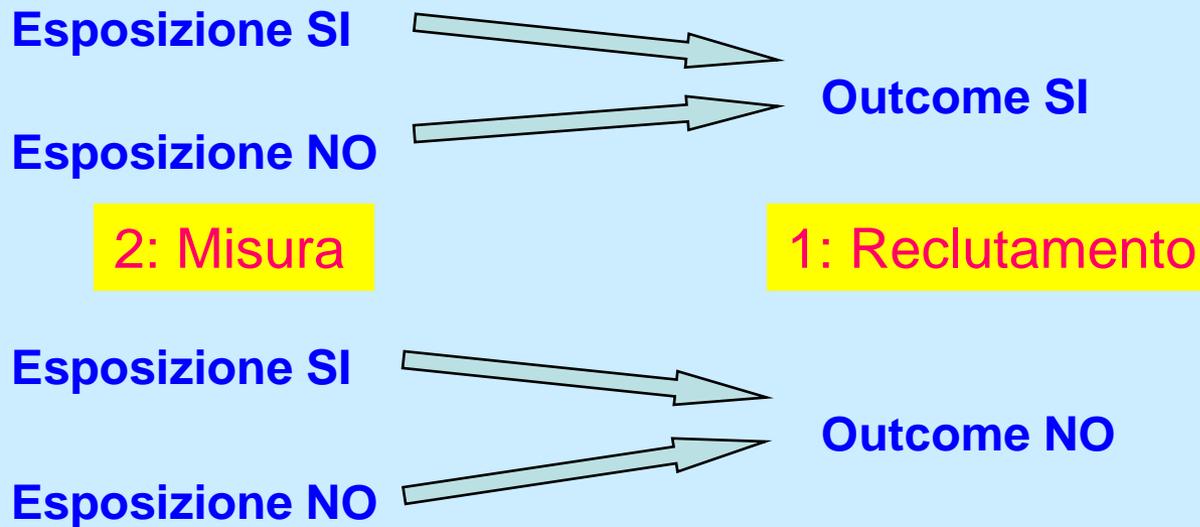
Strumenti d'indagine dell'epidemiologia analitica:

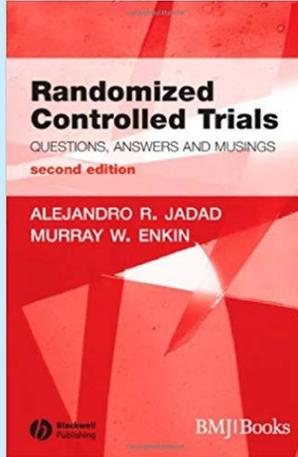


Lo studio di **coorte controllato** (studio “**esposto-controllo**”)

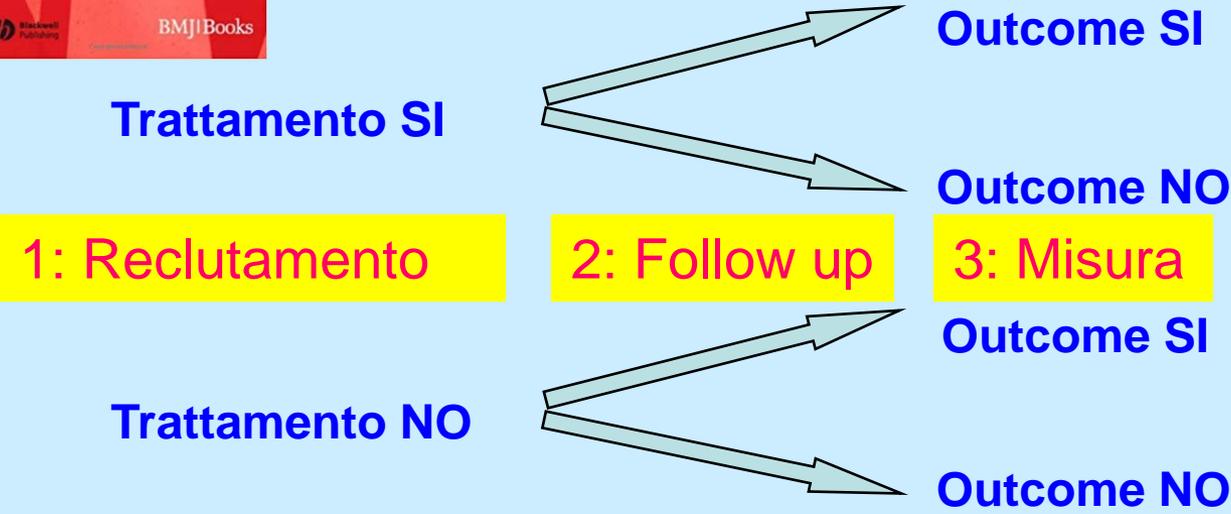


Lo studio “**caso-controllo**”





Lo studio sperimentale controllato (studio “trattato-controllo”)



Fattori di rischio di SIDS (Sudden Infant Death Syndrome)



REVIEW ARTICLE

Do Pacifiers Reduce the Risk of Sudden Infant Death Syndrome? A Meta-analysis

Fern R. Hauck, MD, MS*‡; Olanrewaju O. Omojokun, MD§; and Mir S. Siadat, MD, MS‡

ABSTRACT. *Objective.* Pacifier use has been reported to be associated with a reduced risk of sudden infant death syndrome (SIDS), but most countries around the world, including the United States, have been reluctant to recommend the use of pacifiers because of concerns about possible adverse effects. This meta-analysis was undertaken to quantify and evaluate the protective effect of pacifiers against SIDS and to make a recommendation on the use of pacifiers to prevent SIDS.

Methods. We searched the Medline database (January 1966 to May 2004) to collect data on pacifier use and its association with SIDS, morbidity, or other adverse effects. The search strategy included published articles in English with the Medical Subject Headings terms "sudden infant death syndrome" and "pacifier" and the keywords "dummy" and "soother." Combining searches resulted in 384 abstracts, which were all read and evaluated for inclusion. For the meta-analysis, articles with data on the relationship between pacifier use and SIDS risk were limited to published original case-control studies, because no prospective observational reports were found; 9 articles met these criteria. Two independent reviewers evaluated each study on the basis of the 6 criteria developed by the American Academy of Pediatrics Task Force on Infant Positioning and SIDS; in cases of disagreement, a third reviewer evaluated the study, and a consen-

Conclusions. Published case-control studies demonstrate a significant reduced risk of SIDS with pacifier use, particularly when placed for sleep. Encouraging pacifier use is likely to be beneficial on a population-wide basis: 1 SIDS death could be prevented for every 2733 (95% CI: 2416–3334) infants who use a pacifier when placed for sleep (number needed to treat), based on the US SIDS rate and the last-sleep multivariate SOR resulting from this analysis. Therefore, we recommend that pacifiers be offered to infants as a potential method to reduce the risk of SIDS. The pacifier should be offered to the infant when being placed for all sleep episodes, including daytime naps and nighttime sleeps. This is a US Preventive Services Task Force level B strength of recommendation based on the consistency of findings and the likelihood that the beneficial effects will outweigh any potential negative effects. In consideration of potential adverse effects, we recommend pacifier use for infants up to 1 year of age, which includes the peak ages for SIDS risk and the period in which the infant's need for sucking is highest. For breastfed infants, pacifiers should be introduced after breastfeeding has been well established. *Pediatrics* 2005; 116:e716–e723. URL: www.pediatrics.org/cgi/doi/10.1542/peds.2004-2631; *pacifiers, SIDS, risk factors, risk reduction, meta-analytic methods.*

A. Univariate Analyses

Source	Odds Ratio
Carpenter et al 2004	0.47 (0.34-0.64)
Fleming et al 1999	0.62 (0.46-0.83)
Hauck et al 2003	0.33 (0.21-0.54)
L'Hoir et al 1999	0.16 (0.07-0.36)
McGarvey et al 2004	0.34 (0.22-0.50)
Mitchell et al 1993	0.44 (0.26-0.73)
Tappin et al 2002*	0.55 (0.32-0.95)
Tappin et al 2002†	0.91 (0.47-1.76)

Summary Odds Ratio 0.47 (0.40-0.55)

Test for homogeneity $P = 0.010$

Test for overall effect $P < 0.001$

B. Multivariate Analyses

Source	Odds Ratio
Carpenter et al 2004	0.44 (0.29-0.68)
Fleming et al 1999	0.41 (0.22-0.77)
Hauck et al 2003	0.34 (0.17-0.71)
L'Hoir et al 1999	0.05 (0.01-0.29)
McGarvey et al 2004	0.10 (0.03-0.31)
Mitchell et al 1993	0.43 (0.24-0.78)
Tappin et al 2002*	0.59 (0.30-1.17)

Summary Odds Ratio 0.39 (0.31-0.50)

Test for homogeneity $P = 0.040$

Test for overall effect $P < 0.001$

* "A little" pacifier use

† "A lot" pacifier use

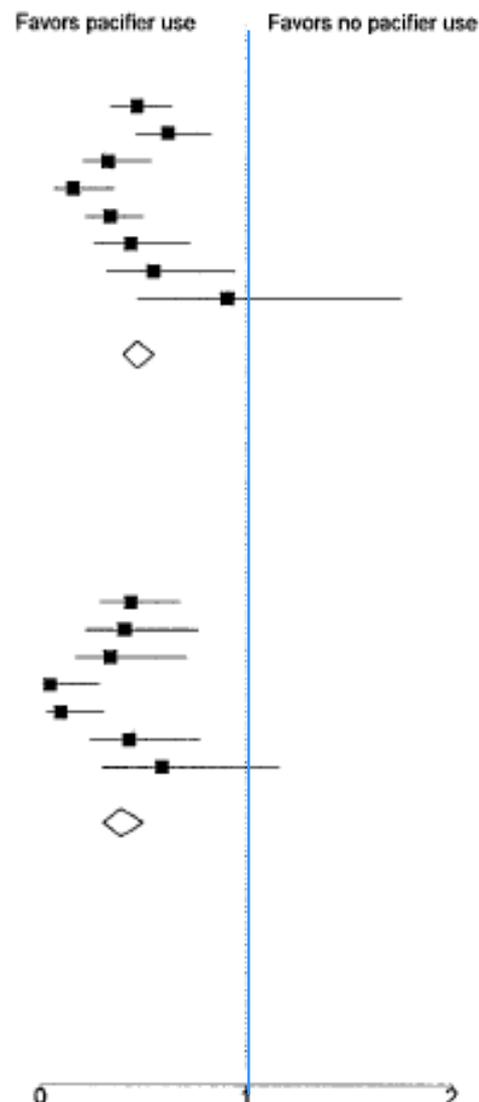
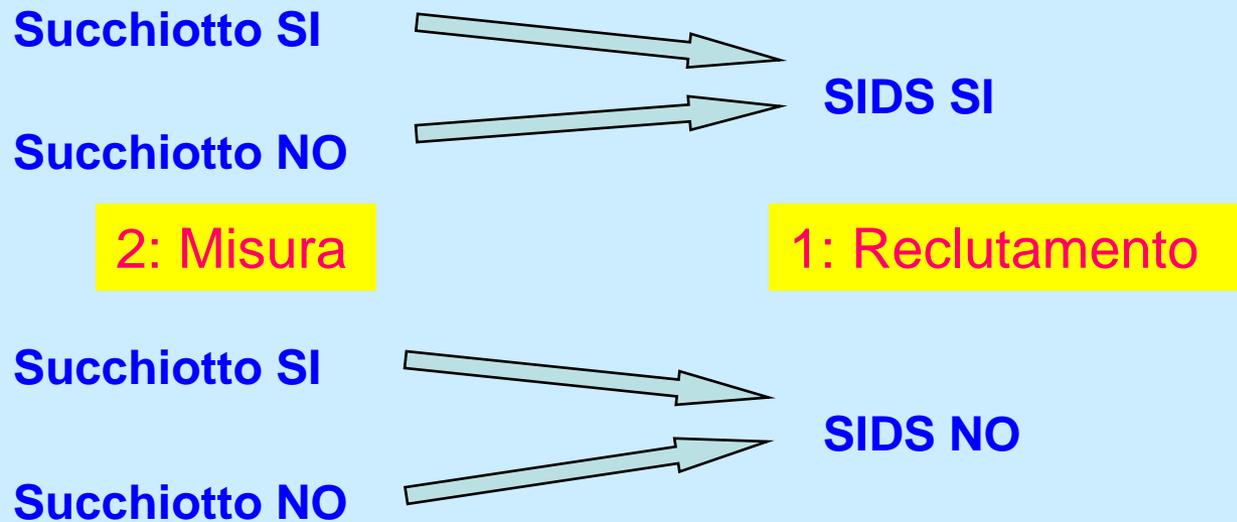


Fig 2. Last/reference-sleep pacifier use and risk of SIDS: univariate and multivariate analyses.

Lo studio “**caso-controllo**”



To the Editor.—

We would like to comment on the meta-analysis¹ recently published in *Pediatrics* that focuses on the relationship between the use of a pacifier and sudden infant death syndrome (SIDS), as well as the American Academy of Pediatrics policy statement² that recommends the use of a pacifier as a possible preventive factor of sudden death.

As previously highlighted,³ methodologic reasons should advise against giving any value to comparisons based on “last sleep.”

Indeed, last sleep is an exclusive feature of a dead infant. An infant who doesn't die cannot experience the “last sleep before dying!” It seems to be quite clumsy to try to surrogate the absence of last sleep in the control group with a poorly convincing “reference sleep” (that is only 1 particular sleep among many and, therefore, should be considered “usual sleep”).

In contrast, it would be reasonable to make comparisons based on common exposures (eg, gender, bottle or breastfeeding, parent's smoking, usual sleeping position, bed sharing, pacifier use, etc).

Taking this approach as our inclusion criterion, we found only 5 studies that compared the use of a pacifier in cases versus controls (search was limited to PubMed and English-language articles).

The effect of pacifier use measured in terms of odds ratio (OR) and estimated by using both univariate and multivariate analyses (4 studies; OR was adjusted for different variables across studies) is smaller than that observed for the last sleep, thus suggesting caution when taking last sleep as a valid indicator.

Others elements of concern regard the reliability of the estimates obtained in the primary studies, such as the adjustment for several variables in relatively few subjects (the study with the biggest effect had 73 cases of SIDS) and the recruitment of several controls for each case, which tend to amplify the effect. The lack of an assessment of methodologic quality and the use of fixed models to combine results that do not take into account the high level of observed variability among results should suggest the use of these results with extreme caution.⁴

In the absence of clear and strong evidence in support of the use of pacifiers (which could have some adverse effects on breastfeeding), we think it would be more appropriate not to provide any recommendations.

Roberto Buzzetti, MD
Roberto D'Amico, PhD

Policlinico di Modena
University of Modena and Reggio Emilia
41100 Modena, Italy

E' un confronto sensato?

CASI

- L'ultimo sonno prima della morte...

CONTROLLI

- L'ultimo sonno prima dell'intervista

Last sleep

Usual sleep

A. Univariate Analyses

Source	Odds Ratio
Carpenter et al 2004	0.47 (0.34-0.64)
Fleming et al 1999	0.62 (0.46-0.83)
Hauck et al 2003	0.33 (0.21-0.54)
L'Hoir et al 1999	0.16 (0.07-0.36)
McGarvey et al 2004	0.34 (0.22-0.50)
Mitchell et al 1993	0.44 (0.26-0.73)
Tappin et al 2002*	0.55 (0.32-0.95)
Tappin et al 2002†	0.91 (0.47-1.76)

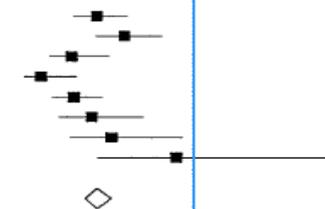
Summary Odds Ratio 0.47 (0.40-0.55)

Test for homogeneity $P = 0.010$

Test for overall effect $P < 0.001$

Favors pacifier use

Favors no pacifier use



B. Multivariate Analyses

Source	Odds Ratio
Carpenter et al 2004	0.44 (0.29-0.68)
Fleming et al 1999	0.41 (0.22-0.77)
Hauck et al 2003	0.34 (0.17-0.71)
L'Hoir et al 1999	0.05 (0.01-0.29)
McGarvey et al 2004	0.10 (0.03-0.31)
Mitchell et al 1993	0.43 (0.24-0.78)
Tappin et al 2002*	0.59 (0.30-1.17)

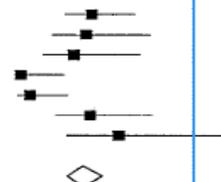
Summary Odds Ratio 0.39 (0.31-0.50)

Test for homogeneity $P = 0.040$

Test for overall effect $P < 0.001$

* "A little" pacifier use

† "A lot" pacifier use



0 1 2

A. Univariate Analyses

Source	Odds Ratio
Carpenter et al, 2004	0.88 (0.72-1.06)
Fleming et al, 1999	1.03 (0.78-1.36)
L'Hoir et al, 1999	0.19 (0.09-0.36)
McGarvey et al, 2004	1.95 (1.25-3.06)
Mitchell et al, 1993	0.76 (0.57-1.02)

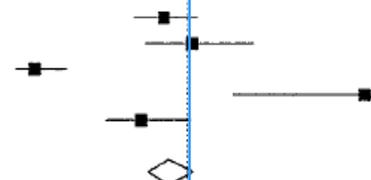
Summary Odds Ratio 0.90 (0.79-1.03)

Test for homogeneity $P < 0.001$

Test for overall effect $P = 0.069$

Favors usual pacifier use

Favors no pacifier use



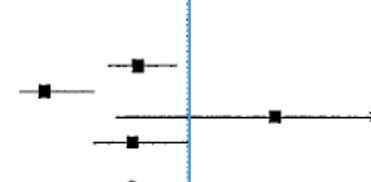
B. Multivariate Analyses

Source	Odds Ratio
Carpenter et al, 2004	0.74 (0.58-0.95)
L'Hoir et al, 1999	0.24 (0.11-0.51)
McGarvey et al, 2004	1.47 (0.62-3.50)
Mitchell et al, 1993	0.71 (0.50-1.01)

Summary Odds Ratio 0.71 (0.59-0.85)

Test for homogeneity $P = 0.016$

Test for overall effect $P < 0.001$



0 1 2

La risposta di Hauck

Drs. Buzzetti and D'Amico advise against placing value on comparisons based on last sleep, indicating that it is “only one particular sleep among many.” However, we would posit that last sleep is the more appropriate sleep period to use. SIDS is believed to be a multi-factorial disorder requiring a set of circumstances to be present. Various factors contribute to the risk of dying from SIDS, and it is therefore logical that some of these factors may change during different sleep periods, based on location of sleep, recent illness, items in the bed, use of pacifiers, sleep position, etc. Thus, proximal or “trigger” factors are likely to be more important in the causal pathway.

Even though it is only the case infant in case-control studies who experienced a “last sleep,” matching to a similar sleep period for the control infant provides a random sleep period (for that infant) which should appropriately represent a comparison period. “Usual” sleep does not necessarily describe accurately what happened during the sleep period in which the SIDS death occurred. As an example to illustrate this point, if someone is injured in a car accident, it is important to know if he was wearing his seat belt for that car trip, not for “usual” car trips.

Seguiamo il suo ragionamento...

CASI **Persone decedute in incidente stradale**

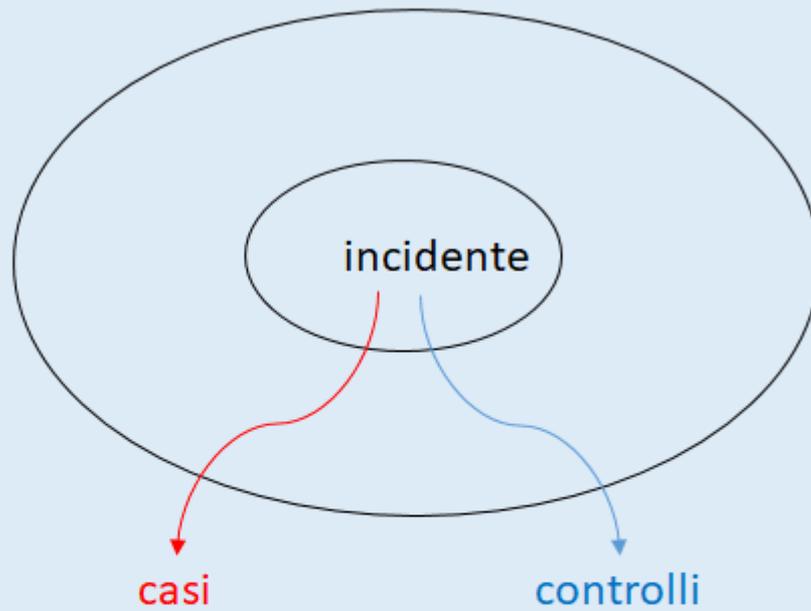
Misura dell'esposizione: quanti avevano la cintura di sicurezza?

CONTROLLI **Persone NON decedute in incidente stradale**

Misura dell'esposizione: quanti avevano la cintura di sicurezza?

Ma l'incidente devono averlo avuto!

(non prendo come controlli gente senza incidente)



EXP
NO EXP

cintura di sicurezza	cintura di sicurezza
no cintura	no cintura

Seguiamo il suo ragionamento...

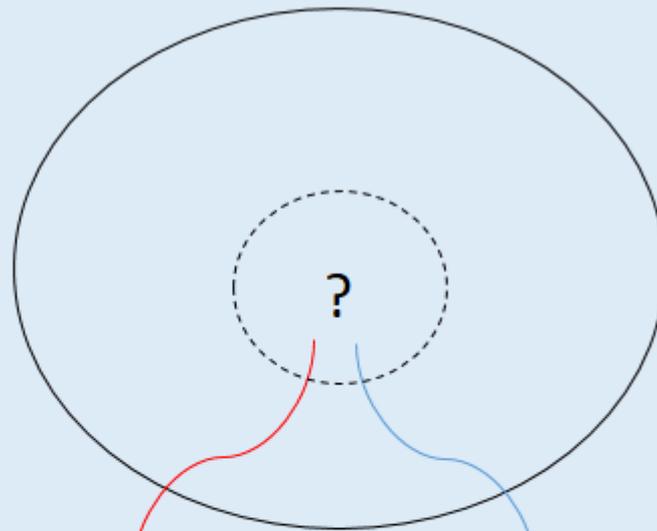
CASI **Lattanti deceduti (SIDS)**

Misura dell'esposizione: quanti avevano il succhiotto?

CONTROLLI **Lattanti NON deceduti**

Misura dell'esposizione: quanti avevano il succhiotto?

**Ma qual è l'incidente
(evento scatenante) ???**



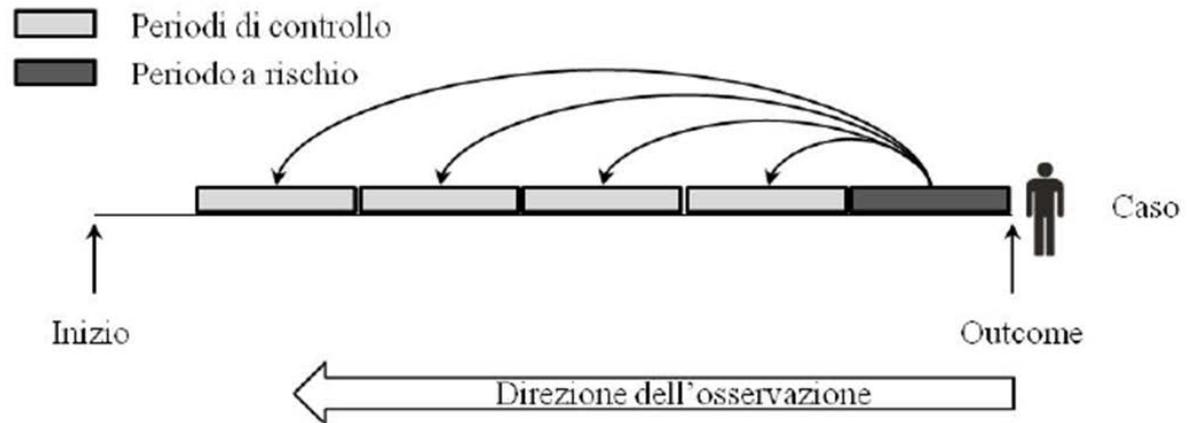
casi = SIDS

controlli

EXP
NO EXP

succhiotto	succhiotto
no succhiotto	no succhiotto

Un'idea (case-crossover study)...



The NEW ENGLAND
JOURNAL *of* MEDICINE

ESTABLISHED IN 1812

AUGUST 9, 2018

VOL. 379 NO. 6

Labor Induction versus Expectant Management in Low-Risk Nulliparous Women

William A. Grobman, M.D., Madeline M. Rice, Ph.D., Uma M. Reddy, M.D., M.P.H., Alan T.N. Tita, M.D., Ph.D., Robert M. Silver, M.D., Gail Mallett, R.N., M.S., C.C.R.C., Kim Hill, R.N., B.S.N., Elizabeth A. Thom, Ph.D., Yasser Y. El-Sayed, M.D., Annette Perez-Delboy, M.D., Dwight J. Rouse, M.D., George R. Saade, M.D., Kim A. Boggess, M.D., Suneet P. Chauhan, M.D., Jay D. Iams, M.D., Edward K. Chien, M.D., Brian M. Casey, M.D., Ronald S. Gibbs, M.D., Sindhu K. Srinivas, M.D., M.S.C.E., Geeta K. Swamy, M.D., Hyagriv N. Simhan, M.D., and George A. Macones, M.D., M.S.C.E., for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal–Fetal Medicine Units Network*

Studio ARRIVE (ClinicalTrials.gov: NCT0199990612)

METODI

Studio randomizzato e controllato multicentrico in aperto

donne nullipare a basso rischio,

randomizzate

- all'induzione del travaglio (tra 39 sett 0 gg e 39 e 4 gg)
- o all'attesa.

Outcome primario: outcome composito - morte perinatale o gravi complicazioni neonatali

Principale outcome secondario: parto cesareo.

RISULTATI

Outcome primario

nel **4,3%** dei neonati del gruppo induzione

nel **5,4%** dei neonati del gruppo attesa

(rischio relativo 0,80; int di conf al 95% da 0,64 a 1,00).

Outcome		Induction Group	Expectant-Management Group	Relative Risk (95% CI) [†]	P Value [‡]
		(N = 3059)	(N = 3037)		
		<i>no. (%)</i>			
Primary composite outcome		132 (4.3)	164 (5.4)	0.80 (0.64–1.00)	0.049
Perinatal death		2 (0.1)	3 (0.1)	0.66 (0.12–3.33)	
Respiratory support		91 (3.0)	127 (4.2)	0.71 (0.55–0.93)	
Apgar score ≤3 at 5 min		12 (0.4)	18 (0.6)	0.66 (0.32–1.37)	
Hypoxic–ischemic encephalopathy		14 (0.5)	20 (0.7)	0.70 (0.35–1.37)	
Seizure		11 (0.4)	 4 (0.1)	2.74 (0.91–8.12)	
Infection		9 (0.3)	12 (0.4)	0.74 (0.31–1.76)	
Meconium aspiration syndrome		17 (0.6)	26 (0.9)	0.65 (0.35–1.19)	
Birth trauma		14 (0.5)	18 (0.6)	0.77 (0.38–1.55)	
Intracranial or subgaleal hemorrhage		9 (0.3)	 7 (0.2)	1.28 (0.48–3.42)	
Hypotension requiring vasopressor support		2 (0.1)	5 (0.2)	0.40 (0.06–1.79)	

* Details regarding the components of the primary perinatal outcome are provided in the Supplementary Appendix.

† Exact confidence intervals are provided for rare outcomes. The widths of the confidence intervals for components of the primary outcome have not been adjusted for multiplicity, so they should not be used to infer definitive effects of the management strategies.

‡ We used a group sequential method to control the type I error with the Lan–DeMets characterization of the O’Brien–Fleming boundary. One interim analysis was performed; in the final analysis of the primary outcome, a two-tailed P value of less than 0.046 was considered to indicate statistical significance. Since the adjustment is minimal, we report the 95% confidence interval for the relative risk.

RISULTATI

Frequenza del parto cesareo

nel **18,6%** delle donne del gruppo induzione

nel **22,2%** delle donne del gruppo attesa

(rischio relativo, 0,84; 95% CI, da 0,76 a 0,93)

Table 3. Secondary Outcomes.*

Outcome		Induction Group (N = 3059)	Expectant- Management Group (N = 3037)	Relative Risk (95% CI)	P Value
Maternal					
Cesarean delivery — no. (%)		569 (18.6)	674 (22.2)	0.84 (0.76–0.93)	<0.001‡
Operative vaginal delivery — no. (%)		222 (7.3)	258 (8.5)	0.85 (0.72–1.01)	0.07
Hypertensive disorder of pregnancy — no. (%)		277 (9.1)	427 (14.1)	0.64 (0.56–0.74)	<0.001‡
Chorioamnionitis — no. (%)		407 (13.3)	429 (14.1)	0.94 (0.83–1.07)	0.35
Third-degree or fourth-degree perineal laceration — no. (%)		103 (3.4)	89 (2.9)	1.15 (0.87–1.52)	0.33
Postpartum hemorrhage — no. (%)		142 (4.6)	137 (4.5)	1.03 (0.82–1.29)	0.81
Postpartum infection — no. (%)		50 (1.6)	65 (2.1)	0.76 (0.53–1.10)	0.15
Admission to ICU — no. (%)		4 (0.1)	8 (0.3)	0.50 (0.13–1.55)	0.26
Death — no. (%)		0	0	NA	NA
Median duration of stay in labor and delivery unit (IQR) — hr§		20 (13–28)	14 (9–20)		<0.001‡
Postpartum hospital stay — no. (%)					0.01‡¶
<2 days		322 (10.5)	317 (10.4)		
2 days		2191 (71.6)	2084 (68.6)		
3 days		399 (13.0)	452 (14.9)		
4 days		130 (4.2)	166 (5.5)		
>4 days		17 (0.6)	18 (0.6)		
Median scores on Labor Agency Scale (IQR)					
At 6–96 hr after delivery		168 (148–183)	164 (143–181)		<0.001‡
At 4–8 wk after delivery		176 (157–189)	174 (154–188)		0.01‡
Median labor pain scores (IQR)**					
Worst score		8 (7–10)	9 (8–10)		<0.001‡
Overall score		7 (5–8)	7 (5–9)		<0.001‡

CONCLUSIONI

L'induzione del travaglio a 39 settimane nelle nullipare a basso rischio

non ha portato a una **frequenza** significativamente **inferiore**

di un **outcome perinatale** avverso composito,

ma si è osservata una **frequenza** significativamente

inferiore di **parto cesareo**

(Finanziato dal Kennedy Shriver National Institute of Child Health and Human Development;).

Ricapitolando: ogni 10.000 parti indotti anziché attesi, si avrebbero:

Primary composite outcome	-108
Perinatal death	-3
Respiratory support	-121
Apgar score ≤ 3 at 5 min	-20
Hypoxic-ischemic encephalopathy	-20
Seizure	23
Infection	-10
Meconium aspiration syndrome	-30
Birth trauma	-14
Intracranial or subgaleal hemorrhage	6
Hypotension requiring vasopressor support	-10

Maternal

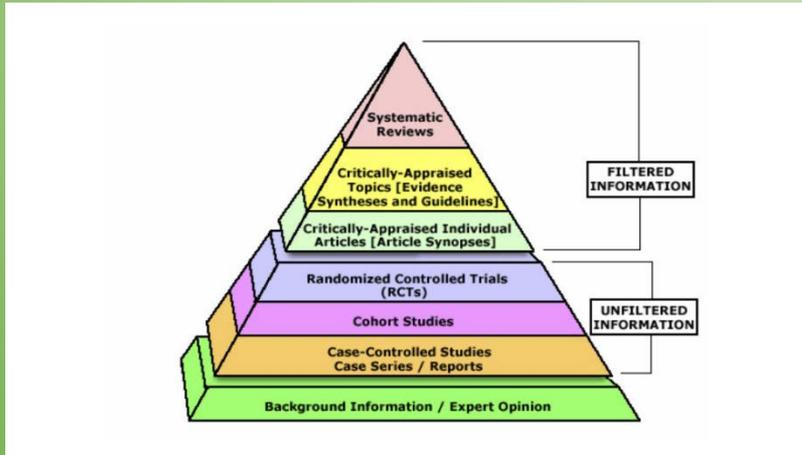
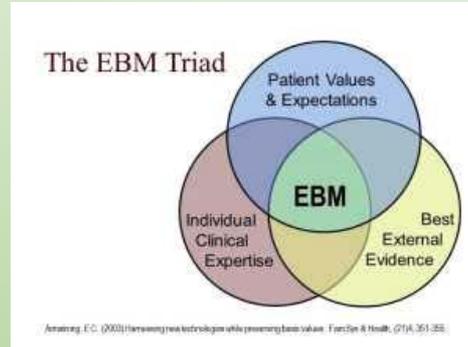
Cesarean delivery — no. (%)	-359
Operative vaginal delivery — no. (%)	-124
Hypertensive disorder of pregnancy — no. (%)	-500
Chorioamnionitis — no. (%)	-82
Third-degree or fourth-degree perineal laceration — no. (%)	44
Postpartum hemorrhage — no. (%)	13
Postpartum infection — no. (%)	-51
Admission to ICU — no. (%)	-13
Death — no. (%)	0

Median duration of stay in labor and delivery (IQR) — hr§ **+60.000 h di travaglio**

Postpartum hospital stay — no. (%) **-450 gg di degenza**

<2 days	9
2 days	300
3 days	-184
4 days	-122
>4 days	-4

Nascita della EBM

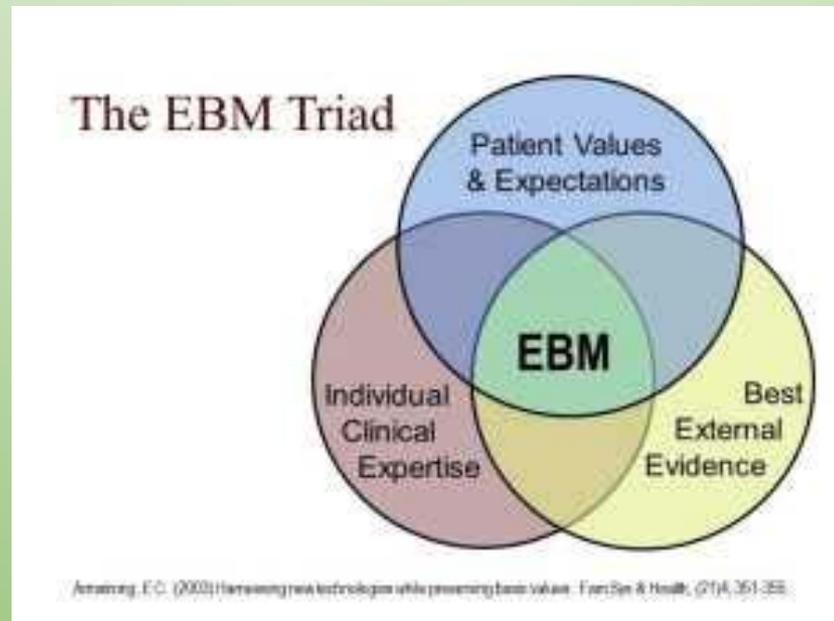


Evidence-Based Practice Tools Summary

①	Cochrane Systematic Reviews	①	Cochrane Library Cochrane Database of Systematic Reviews (Cochrane Reviews) Database of Abstracts of Reviews of Effects (Other Reviews - DARE)
②	Other SRs & Meta-Analyses	②	PubMed MEDLINE - Systematic Reviews
③	Evidence Guidelines	③	BMJ Clinical Evidence DynaMed
④	Evidence Summaries	④	USPSTF Guidelines AHRQ Evidence Reports FPIN Clinical Inquiries included in Journal of Family Practice and American Family Physician Indexed in PrimeAnswers
⑤	RCTs Case Cohorts, Control Studies	⑤	PubMed Clinical Queries Cochrane Library Cochrane Central Register of Controlled Trials (Clinical Trials)
⑥	Clinical Research Critiques	⑥	ACP Journal Club POEMS (Patient Oriented Evidence that Matters) Bandolier BestBETS
⑦	Other Reviews of the Literature	⑦	Natural Medicines Comprehensive Database
⑧	Case Reports, Case Series, Practice Guidelines	⑧	PubMed National Guideline Clearinghouse
⑨	Clinical Reference Texts	⑨	PrimeAnswers Care Provider Toolkit

University of Washington Resources
<http://healthlinks.washington.edu/ebp/ebptools.html>
<http://healthlinks.washington.edu/ebp/>

Nascita della EBM

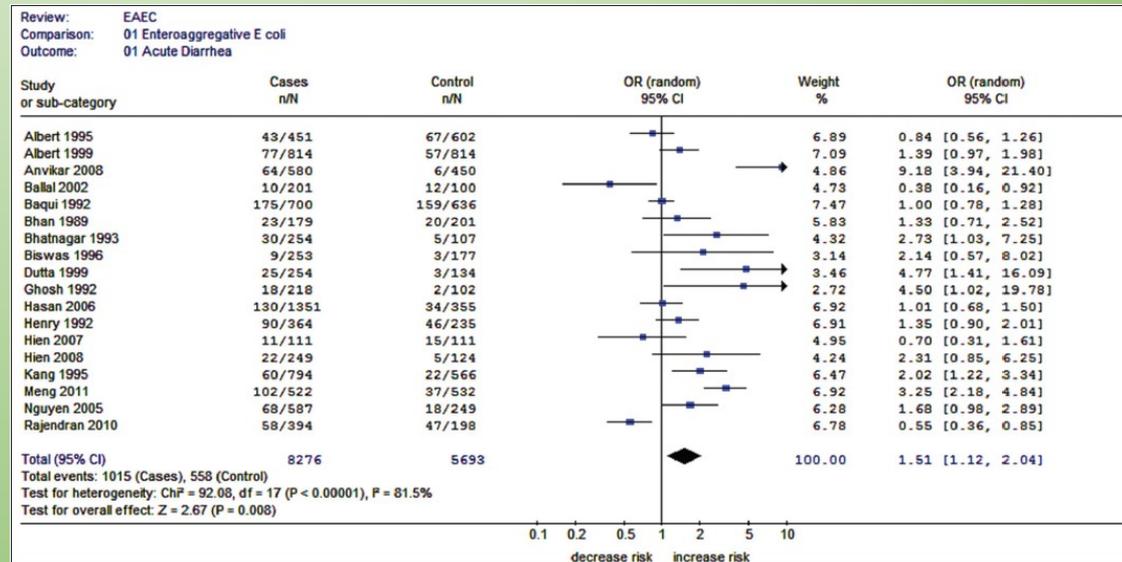


Importanza dell'analisi
bibliografica.

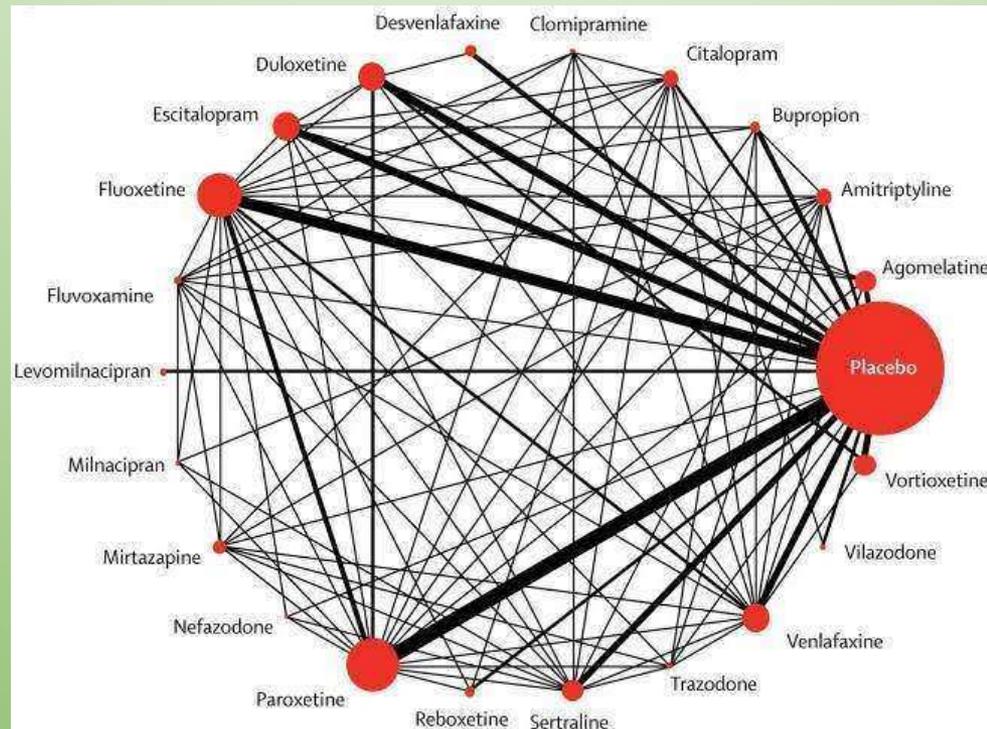
«nuove» tecniche:

l'aumentata importanza delle **revisioni sistematiche** sugli studi primari.

Nuovi metodi analitici, come ad es la **metanalisi**.



- Più recentemente la **network metanalysis**



Alcune tra le nuove «patologie» della conoscenza

Riviste predatorie

Plagio

Retracting

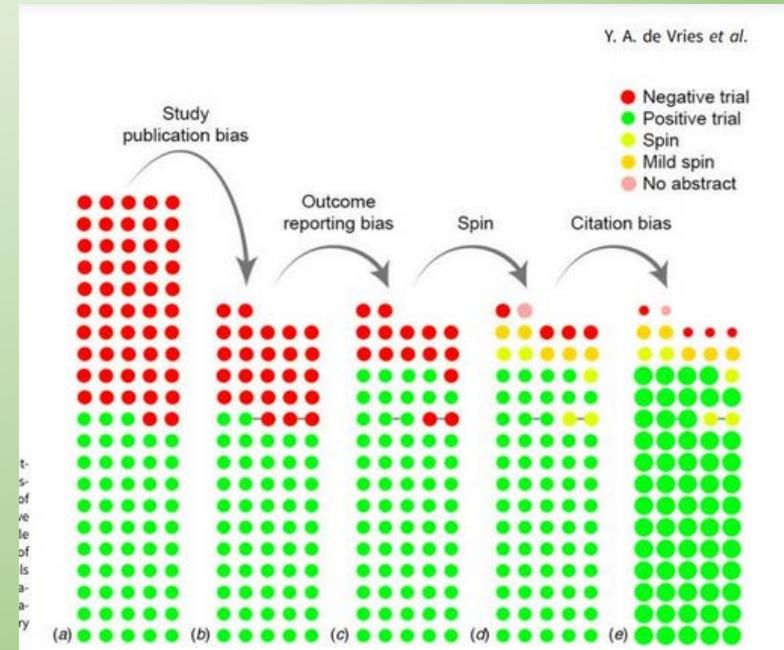
Bias di pubblicazione

Disease mongering

Conflitto di interesse!

bias di pubblicazione

- **Study publication bias:** “the non-publication of an entire study.”
- **Outcome reporting bias:** “the non-publication of negative outcomes within a published article or to switching the status of (non-significant) primary and (significant) secondary outcomes.”
- **Spin:** “Reporting strategies that could distort the interpretation of results and mislead readers...e.g., instead of concluding that treatment X was not more *effective* than placebo, concluding that treatment X was *well tolerated* and was *effective in patients who had not received prior therapy*.”
- **Citation bias:** “an obstacle to ensuring that negative findings are discoverable. Studies with positive results receive more citations than negative studies, leading to heightened visibility of positive results.”



What Is Disease Mongering?

WATCH NOW!

1. **Ordinary processes or ailments as medical problems**
 - Baldness, pregnancy, menopause, aging, infertility
2. **Mild symptoms as serious disease**
 - Irritable bowel syndrome, chronic fatigue syndrome
3. **Personal or social problems as medical ones**
 - Social phobia , criminal behavior, drug dependence, eating disorders, alcoholism
4. **Risks conceptualized as disease**
 - Osteoporosis (reduced bone mass), high blood pressure, high cholesterol
5. **Disease prevalence estimates framed to maximize the size of a medical problem**
 - Erectile dysfunction, female sexual dysfunction, hyperactivity in children/ ADD/ ADHD, PMS/ PMDD (Pre-Menstrual Dysphoric Disorder), depression

Ma è possibile creare “ad arte” una malattia?

- La storia recente ci insegna di sì, per esempio
- agendo sui parametri che stabiliscono il confine tra normalità e malattia (è il caso del diabete o dei livelli di colesterolo nel sangue)

evidence

open access journal published by the GIMBE Foundation

Guidelines & Standards

Linee guida per modificare le definizioni di malattia: una checklist

Jenny Doust¹, Per O. Vandvik², Amir Qaseem³, Reem A. Mustafa^{4*}, Andrea R. Horvath⁵, Allen Frances⁶, Lubna Al-Ansary⁷, Patrick Bossuyt⁸, Robyn L. Ward⁹, Ina Kopp¹⁰, Laragh Gollogly¹¹, Holger Schunemann¹², Paul Glasziou¹³, per il *Guidelines International Network (G-I-N) Preventing Overdiagnosis Working Group*

¹Centre for Research in Evidence Based Practice, Bond University, Australia; ²Department of Medicine, Innlandet Hospital Trust, Norvegia; ³Department of Clinical Policy, American College of Physicians, USA; ⁴Department of Health Research Methods, Evidence and Impact, McMaster University, Canada; ⁵Department of Medicine, McMaster University, Canada; ⁶NSW Health Pathology SEALS Department of Clinical Chemistry and Endocrinology, Prince of Wales Hospital, Australia; ⁷Duke University, USA; ⁸Department of Family and Community Medicine, King Saud University, Arabia Saudita; ⁹Department of Clinical Epidemiology and Biostatistics, University of Amsterdam, Paesi Bassi; ¹⁰Brian Wilson Chancellery, University of Queensland, Australia; ¹¹Association of the Scientific Medical Societies' Institute of Medical Knowledge-Management, Philipps-University, Germania; ¹²Department of Strategy, Policy, and Information, Organizzazione Mondiale della Sanità, Svizzera.

Tabella 1. Modifiche alle definizioni di malattia e impatto sulla prevalenza

Malattia/condizione	Popolazione	Definizione precedente	Prevalenza con definizione precedente	Nuova definizione	Prevalenza con nuova definizione
Osteoporosi	Campione di donne statunitensi di età >65 anni ⁷	BMD T-score della testa del femore ≤ -2.5	21%	Linee guida NOF 2008	72%
Infarto del miocardio	Pazienti con un livello di troponina ≥ 30 ng/L ⁸	Criteri OMS che utilizzano la CPK-MB	18%	Criteri ESC/ACC 2000 che usano la troponina	29%
Sindrome dell'ovaio policistico	Campione di donne cinesi di età 12-44 anni ⁹	Criteri del NIH	7%	Criteri di Rotterdam	11%
Pre-diabete	Survey su adulti cinesi di età >18 anni ¹⁰	Alterazione della glicemia a digiuno	26%	Criteri ADA 2010	50%
	Survey NHANES su adulti di età ≥ 18 anni negli Stati Uniti ¹¹	Alterazione della glicemia a digiuno	26%	Criteri ADA 2010	31%

Abbreviazioni: ACC, American College of Cardiology; ADA American Diabetes Association; BMD, densità minerale ossea; ESC, European Society of Cardiology; NHANES, National Health and Nutrition Examination Survey; NOF, National Osteoporosis Foundation; OMS, Organizzazione Mondiale della Sanità.

oppure

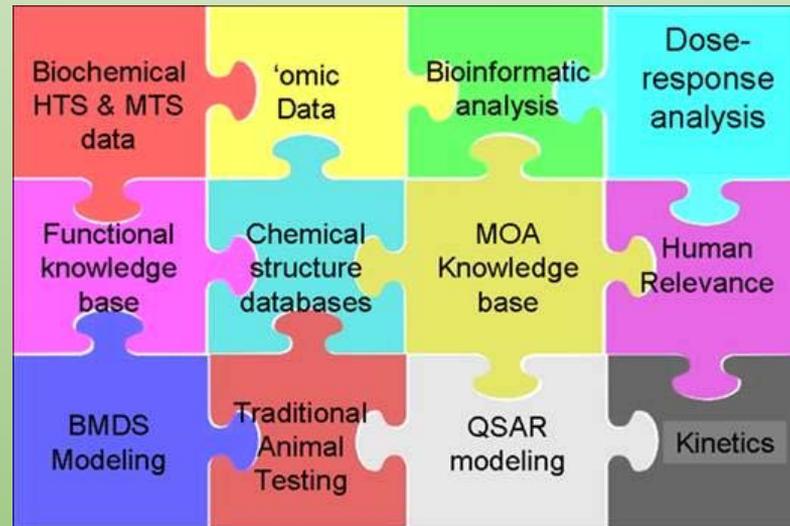
- etichettando come “patologie” condizioni e atteggiamenti che connotano piuttosto
 - tratti di personalità (ansia, timidezza, noia),
 - particolari fasi della vita (menopausa, vecchiaia) o
 - semplici caratteristiche fisiche (calvizie, cellulite).

Disease mongering: qualche esempio celebre

- Crisi di panico e fobia sociale
- Mild cognitive impairment
- Disfunzione sessuale maschile e femminile
- Intestino irritabile
- Fibromialgia...

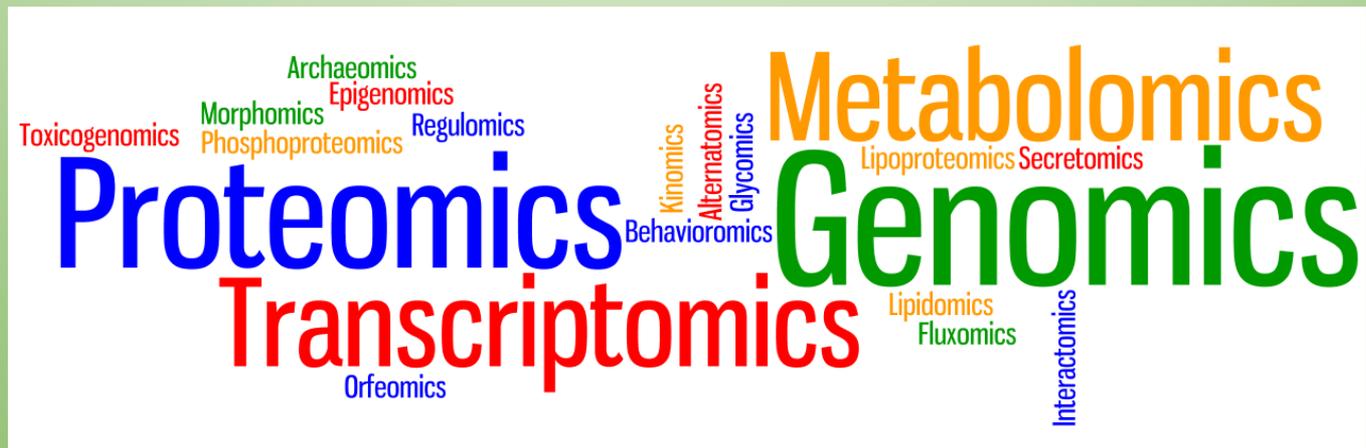
Roberto Satolli

E l'epidemiologia di domani?



E l'epidemiologia di domani?

Le -omiche e i big data



Saracci R. Epidemiology in wonderland: Big data and precision medicine.
Eur J Epidemiology 2018; published 5 april 2018.

E l'epidemiologia di domani?

- La «**real world evidence**»
- La promessa della medicina **personalizzata**, di **precisione**:

La saggezza



A Rough Guide to SPOTTING BAD SCIENCE

Being able to evaluate the evidence behind a scientific claim is important. Being able to recognise bad science reporting, or faults in scientific studies, is equally important. These 12 points will help you separate the science from the pseudoscience.

1. SENSATIONALISED HEADLINES

Aa

Article headlines are commonly designed to entice viewers into clicking on and reading the article. At times, they can over-simplify the findings of scientific research. At worst, they sensationalise and misrepresent them.

7. UNREPRESENTATIVE SAMPLES USED



In human trials, subjects are selected that are representative of a larger population. If the sample is different from the population as a whole, then the conclusions from the trial may be biased towards a particular outcome.

2. MISINTERPRETED RESULTS



News articles can distort or misinterpret the findings of research for the sake of a good story, whether intentionally or otherwise. If possible, try to read the original research, rather than relying on the article based on it for information.

8. NO CONTROL GROUP USED



In clinical trials, results from test subjects should be compared to a 'control group' not given the substance being tested. Groups should also be allocated randomly. In general experiments, a control test should be used where all variables are controlled.

3. CONFLICTS OF INTEREST



Many companies will employ scientists to carry out and publish research - whilst this doesn't necessarily invalidate the research, it should be analysed with this in mind. Research can also be misrepresented for personal or financial gain.

9. NO BLIND TESTING USED



To try and prevent bias, subjects should not know if they are in the test or the control group. In 'double blind' testing, even researchers don't know which group subjects are in until after testing. Note, blind testing isn't always feasible, or ethical.

4. CORRELATION & CAUSATION



Be wary of any confusion of correlation and causation. A correlation between variables doesn't always mean one causes the other. Global warming increased since the 1800s, and pirate numbers decreased, but lack of pirates doesn't cause global warming.

10. SELECTIVE REPORTING OF DATA



Also known as 'cherry picking', this involves selecting data from results which supports the conclusion of the research, whilst ignoring those that do not. If a research paper draws conclusions from a selection of its results, not all, it may be guilty of this.

5. UNSUPPORTED CONCLUSIONS



Speculation can often help to drive science forward. However, studies should be clear on the facts their study proves, and which conclusions are as yet unsupported ones. A statement framed by speculative language may require further evidence to confirm.

11. UNREPLICABLE RESULTS



Results should be replicable by independent research, and tested over a wide range of conditions (where possible) to ensure they are consistent. Extraordinary claims require extraordinary evidence - that is, much more than one independent study!

6. PROBLEMS WITH SAMPLE SIZE



In trials, the smaller a sample size, the lower the confidence in the results from that sample. Conclusions drawn can still be valid, and in some cases small samples are unavoidable, but larger samples often give more representative results.

12. NON-PEER REVIEWED MATERIAL



Peer review is an important part of the scientific process. Other scientists appraise and critique studies, before publication in a journal. Research that has not gone through this process is not as reputable, and may be flawed.



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<http://www.troppamedicina.it/10-principi-per-bilanciare-troppo-e-troppo-poca-medicina/>



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[Non finanziare procedure inutili](#)

[Una non-notizia: il robot chirurgico](#)

E' meglio agitarsi nel dubbio che riposare nell'errore.

Alessandro Manzoni

e allora eccoci, siamo qua
siamo venuti per niente
perché per niente si va
e c'inchiniamo ripetutamente
e ringraziamo infinitamente...