EVIDENCE BASED
GASTROENTEROLOGY
& HEPATOLOGY

17° CORSO EVIDENCE BASED GASTROENTEROLOGY, HEPATOLOGY & DIGESTIVE ONCOLOGY

1 - 3 DICEMBRE 2016 TORGIANO, DIPENDENZA LE TRE VASELLE

Con il Patrocinio di

SOCIETÀ ITALIANA
DI GASTROENTEROLOGIA

ASSOCIAZIONE ITALIANA
PER LO STUDIO DEL FEGATO

ASSOCIAZIONE ITALIANA
PER LO STUDIO DEL PANCREAS

AGGEI
Associazione Giovani
Gastroenterologi ed
Endoscopisti Italiani

GIOVEDÌ 1 DICEMBRE

17° CORSO EVIDENCE BASED GASTROENTEROLOGY, HEPATOLOGY & DIGESTIVE ONCOLOGY

09.00 **PRESENTAZIONE DEL PRE-CORSO**
Maurizio Koch

09.10 **LETTURA**
INTRODUZIONE ALL'ANALISI SPAZIALE
Gioacchino Leandro

09.40 **LA CASSETTA DEGLI ATTREZZI**
LA TECNICA DEL PROBLEM SOLVING: IL CASO DELLA MALATTIA DIVERTICOLARE
Modera: Maurizio Koch
Salvatore Corrao, Piero Almasio, Andrea Marcellusi, Alessandra Moretti

- La ricerca della letteratura
- Il procedimento diagnostico
- Analisi della risposta e del rischio terapeutica: rate difference, odds ratio, NNT, NNH
- Gli studi osservazionali e gli studi randomizzati
- Summing up: revisione sistematica e meta-analisi
- Burden economico

Coffee break a metà delle presentazioni

13.00 **LETTURA**
TRIAL CLINICI IN ENDOSCOPIA DIGESTIVA
Franco Radaelli

13.30 **PRANZO**

SALA UMBRIA

GIOVEDÌ 1 DICEMBRE

17° CORSO EVIDENCE BASED GASTROENTEROLOGY, HEPATOLOGY & DIGESTIVE ONCOLOGY

15.30 - 18.00

WORKING TEAM
ENDOSCOPIA
Moderatori: Cesare Hassan, Alessandro Repici

LETTURA
LA SFIDA DELLA RICERCA IN GASTROINTESTINAL ENDOSCOPY: DALL'INNOVAZIONE TECNOLOGICA AL RIGORE METODOLOGICO
Alessandro Repici

16.00 IL TRATTAMENTO DELLE STENOSI ESOFAGEE BENIGNE; UNA GUIDA PER UNA PATOLOGIA COMPLESSA CON APPROCCIO MULTIDISCIPLINARE
Lorenzo Fuccio

16.20 ACALASIA: QUANDO IL CHIRURGO PUÒ ESSERE SOSTITUITO DAL GASTROENTEROLOGO. STORIA DELL'EVOLUZIONE DI UNA DISCIPLINA
Alessandro Repici

16.40 LINEE GUIDA EUROPEE E LORO IMPATTO NELLA PRATICA CLINICA
LA SEDAZIONE IN ENDOSCOPIA DIGESTIVA: COSA È CAMBIATO E COSA CI RISERVA IL FUTURO
Cesare Hassan

17.10 **LETTURA**
META-ANALISI IN ENDOSCOPIA DIGESTIVA, COSA SERVE PER DECIDERE
Lorenzo Fuccio

Discussione e individuazione di aree grigie con discenti interessati

18.00 - 19.00 ESERCITAZIONI IN AULE SEPARATE

- GRUPPO I: **EPATITE C ED EBM**
  Calogero Cammà, Giuseppe Cabibbo
- GRUPPO II: **LA RICERCA DELLA LETTERATURA: PUBMED**
  Salvatore Corrao

SALA UMBRIA

VENERDÌ 2 DICEMBRE

17° CORSO EVIDENCE BASED GASTROENTEROLOGY, HEPATOLOGY & DIGESTIVE ONCOLOGY

INTRODUZIONE AL 17° CORSO DELLA SCUOLA DI TORGIANO

09.00 SALUTO DI BENVENUTO
Lucio Capurso, Maurizio Koch

09.30 - 11.30

WORKING TEAM
EPATOLOGIA
Presidente: Carmela Loguercio
Moderatori: Calogero Cammà, Francesco P. Russo

09.30 INFEZIONE CRONICA DA HCV: SOLO PATOLOGIA DEL FEGATO?
Salvatore Petta

09.45 DALLE LINEE GUIDA ALLA PRATICA CLINICA ED ALLA PERSONALIZZAZIONE NEL TRATTAMENTO DELL'EPATITE C
Pierluigi Toniutto

10.00 POSITION PAPER ITALIANO SULL'EPATOCARCINOMA: QUALE SPAZIO NELLA PERSONALIZZAZIONE DELLE CURE?
Franco Trevisani

10.15 BIOETICA ED EPATITE C
Lucia Craxì

10.30 **LETTURA**
NUOVI CRITERI DI ALLOCAZIONE DEL TRAPIANTO PER L'EPATOCARCINOMA: OLTRE LE LINEE GUIDA
Umberto Cillo

11.00 **LETTURA**
GLI STRUMENTI DELL'EVIDENZA: DAI TRIAL E DALLE META-ANALISI ALLA PERSONALIZZAZIONE DELLE CURE
Calogero Cammà

Discussione e individuazione di aree grigie con discenti interessati

12.00 - 13.00

ONCOLOGIA DIGESTIVA

12.00 **LETTURA**
TRIAL CLINICI ED INNOVAZIONE IN ONCOLOGIA: VERSO LA PERSONALIZZAZIONE DEL TRATTAMENTO
Paolo Bruzzi

SALA UMBRIA

VENERDÌ 2 DICEMBRE

17° CORSO EVIDENCE BASED GASTROENTEROLOGY, HEPATOLOGY & DIGESTIVE ONCOLOGY

12.30 **LETTURA**
IMMUNOTHERAPY AND CANCER: TOWARDS 2020
Paola Nisticò

13.00 **PRANZO**

14.30 - 16.00

WORKING TEAM
PANCREAS
Moderatori: Alessandro Zerbi, Massimo Falconi

LA NUOVA DEFINIZIONE DELLA PANCREATITE CRONICA, COSA SIGNIFICA E COSA COMPORTA
Luca Frulloni

LA PANCREATITE ACUTA: LE DISCREPANZE TRA LE EVIDENZE DEI RCTs E LA PRATICA CLINICA
Gabriele Capurso

APPROCCIO AL PAZIENTE CON ADENOCARCINOMA PANCREATICO OPERABILE: IL CONFINE TRA MORFOLOGIA E BIOLOGIA
Stefano Partelli

Discussione e individuazione di aree grigie con discenti interessati

16.00 **LETTURA**
IMAGING AND EBM
Andrea Laghi

16.30 **COFFEE BREAK**

17.00 - 18.30 ESERCITAZIONI IN AULE SEPARATE

- GRUPPO I: **EPATITE C ED EBM**
  Calogero Cammà, Giuseppe Cabibbo
- GRUPPO II: **LA RICERCA DELLA LETTERATURA: PUBMED**
  Salvatore Corrao

SALA UMBRIA

SABATO 3 DICEMBRE

17° CORSO EVIDENCE BASED GASTROENTEROLOGY, HEPATOLOGY & DIGESTIVE ONCOLOGY

08.30 - 09.45

WORKING TEAM

IBS E ROMA IV

Moderatori: Antonio Gasbarrini, Giovanni Barbara

DIETA E MICROBIOTA: ATTENTI A QUEI DUE!
Davide Festi

COSA CAMBIA CON ROMA IV
Cesare Cremon

PROSPETTIVE FUTURE NELLA MODULAZIONE DEL MICROBIOTA NELL'IBS
Gianluca Ianiro

L'APPROCCIO TERAPEUTICO DELL'IBS-C
Massimo Bellini

Discussione e individuazione di aree grigie con discenti interessati

09.45 - 11.45

WORKING TEAM

LA TERAPIA DELLE IBD DAL TRIAL CLINICO ALLA "REAL LIFE"

CRITICITÀ METODOLOGICHE DEI TRIALS CLINICI NELLE IBD
Mario Cottone

DAL TRIAL ALLA PRATICA CLINICA: QUANTO GRANDE È IL DIVARIO
Ambrogio Orlando

IL TRATTAMENTO DELLE IBD OLTRE IL CONTROLLO DEI SINTOMI:
LA GUARIGIONE MUCOSALE COME "END POINT" TERAPEUTICO
Claudio Papi

VERSO NUOVI OBIETTIVI TERAPEUTICI: DAL "PATIENT REPORTED OUTCOME"
AL "TREAT TO TARGET"
Massimo Fantini

Discussione e individuazione di aree grigie con discenti interessati

SABATO 3 DICEMBRE

17° CORSO EVIDENCE BASED GASTROENTEROLOGY, HEPATOLOGY & DIGESTIVE ONCOLOGY

11.45 **LETTURE FINALI**

EBM ED AUTONOMIA DEL PAZIENTE. UN CONNUBIO POSSIBILE?
Lucia Craxì

GOOD VIBRATIONS: QUALCHE PENSIERO FINALE
Maurizio Koch

12.45 **DISCUSSIONE GENERALE**
SUMMING UP VERSO TORGIANO 18

INFORMAZIONI GENERALI

SEDE
DIPENDENZA LE TRE VASELLE
Via F.lli Bandiera, 73
06089 Torgiano (PG)

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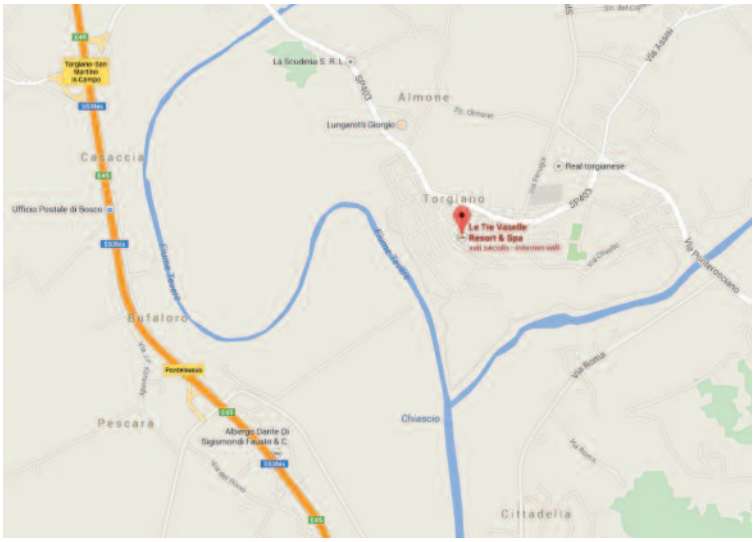
COME RAGGIUNGERE LA SEDE



In macchina
Dall'autostrada A1 prendere la E45, uscire a Torgiano/S.Martino in Campo.
La sede si trova nel centro storico del borgo di Torgiano

In treno
Stazione Perugia Centro
Stazione Perugia Ponte San Giovanni
La sede è raggiungibile in appena 15 minuti di taxi dalla stazione.

In aereo
L'aereoporto di Perugia Sant'Egidio (PEG) collega Perugia ad alcune delle principali destinazioni europee. La sede si trova a 15 minuti di taxi dall'aeroporto.

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GLOSSARIO

La rivista *Evidence-Based Medicine* propone da due anni un glossario dei termini che dovrebbero essere utilizzati per valutare i risultati di un *trial.*

Proponiamo i termini da utilizzare in caso di studi di *terapia.*

Discuteremo due esempi:

ESEMPIO 1

La terapia intensiva per il diabete mellito riduce il rischio di neuropatia?
Uno studio controllato sull'argomento fornisce le seguenti cifre:
tasso di neuropatia nel gruppo di studio (experimental event rate: EER) 3%
tasso di neuropatia nel gruppo di controllo (control event rate: CER) 10%
(Evidence-Based Medicine 1995, 1:9)

ESEMPIO 2

La trombolisi a domicilio per infarto aumenta la sopravvivenza?
Uno studio controllato sull'argomento fornisce le seguenti cifre a 30 mesi:

- tasso di sopravvivenza nel gruppo di studio (trombolisi effettuata già a domicilio, experimental event rate: EER)
  80%
- tasso di sopravvivenza nel gruppo di controllo (trombolisi effettuata all'arrivo in ospedale, control event rate: CER)
  68%

(Evidence- Based Medicine 1996, 1:138)

1. se il trattamento sperimentale riduce il rischio di un evento negativo:
RRR (relative risk riduction):
la riduzione proporzionale nel tasso di eventi negativi tra il gruppo sperimentale e il gruppo controllo
|EER - CER| esempio 1: |3%-10%| = 70%
CER 10%

ARR (absolute risk reduction)
la differenza assoluta aritmetica nel tasso di eventi
|EER-CER| esempio 1: |3%-10%| = 7%

GLOSSARIO

NNT (number needed to treat):
il numero dei pazienti che è necessario trattare per ottenere un evento favorevole ulteriore.
Si calcola come il numero intero arrotondato alla cifra più elevata
1/ARR esempio 1: 1/7% = 14.3 → 15

2. se il trattamento sperimentale aumenta la probabilità di un evento favorevole:

RBI (relative benefit increase):
l'aumento nel tasso di eventi favorevoli tra gruppo sperimentale e gruppo controllo:
|EER-CER| esempio 2: |83%-68%| = 22%
CER 68%

ABI (absolute benefit increase):
la differenza assoluta aritmetica nel tasso degli eventi:
|EER-CER| esempio 2: |83%-68%| = 15%

NNT (number needed to treat):
numero di pazienti che devono ricevere la terapia sperimentale per ottenere un ulteriore evento favorevole rispetto al gruppo controllo:
1/ARR esempio 2: 1/15% = 7

3. se il trattamento sperimentale aumenta la probabilità di un evento negativo, come ad esempio un effetto collaterale (si pensi ad esempio ad episodi emorragici in corso di trombolisi):
RRI (relative risk increase):
l'aumento nel tasso di eventi negativi, al confronto tra gruppo sperimentale e gruppo controllo viene usato anche per valutare l'impatto di fattori di rischio per una malattia: v. RBI

ARI (absolute risk increase):
la differenza assoluta nel tasso di eventi negativi, quando il gruppo sperimentale danneggia più pazienti del gruppo controllo:
v. ABI

NNH (number needed to harm):
numero di pazienti che, se assegnati al gruppo sperimentale, potrebbe condurre al danno di un ulteriore paziente rispetto al gruppo di controllo:
1/ARI

GLOSSARIO

Terms used in therapeutics

Allocation concealed: deemed to have taken adequate measures to conceal allocation to study group assignments from those responsible for assessing patients for entry in the trial (e.g., central randomisation; sequentially numbered, opaque, sealed envelopes; sealed envelopes from a closed bag; numbered or coded bottles or containers; drugs prepared by the pharmacy; or other descriptions that contain elements convincing of concealment.

Allocation not concealed: deemed to have not taken adequate measures to conceal allocation to study group assignments from those responsible for assessing patients for entry in the trial (e.g., no concealment procedure was undertaken, sealed envelopes that were not opaque, or other descriptions that contain elements not convincing of concealment).

Unclear allocation concealment: the authors of the article did not report or provide us with a description of an allocation concealment approach that allowed for classification as concealed or not concealed.

Blinded: any or all of the clinicians, patients, participants, outcome assessors, or statisticians were unaware of who received which study intervention. Those that are blinded are indicated in parentheses. If "initially" is indicated (e.g., blinded [patients and outcome assessor initially]), the code was broken during the trial, for instance, because of adverse effects.

Blinded (unclear): the authors did not report or provide us with an indication of who, if anyone, was unaware of who received which study intervention.

Unblinded: all participants in the trial (clinicians, patients, participants, outcome assessors, and statisticians) were aware of who received which study intervention.

WHEN THE EXPERIMENTAL TREATMENT REDUCES THE RISK FOR A BAD EVENT

RRR (relative risk reduction): the proportional reduction in rates of bad events between experimental (experimental event rate [EER]) and control (control event rate [CER]) patients in a trial, calculated as |EER—CER|/CER and accompanied by a 95% confidence interval (CI).

ARR (absolute risk reduction): the absolute arithmetic difference in event rates, |EER—CER|

NNT (number needed to treat): the number of patients who need to be treated to prevent one additional bad outcome; calculated as 1/ARR, rounded up to the next highest whole number, and accompanied by its 95% CI.

WHEN THE EXPERIMENTAL TREATMENT INCREASES THE PROBABILITY OF A GOOD EVENT

RBI (relative benefit increase): the increase in the rates of good events, comparing experimental and control patients in a trial, also calculated as |EER—CER|/CER.

ABI (absolute benefit increase): the absolute arithmetic difference in event rates, |EER—CER|.

NNT: calculated as 1/ABI; denotes the number of patients who must receive the experimental treatment to create one additional improved outcome in comparison with the control treatment.

WHEN THE EXPERIMENTAL TREATMENT INCREASES THE PROBABILITY OF A BAD EVENT

RRI (relative risk increase): the increase in rates of bad events, comparing experimental patients to control patients in a trial, and calculated as for RBI. RRI is also used in assessing the effect of risk factors for disease.

ARI (absolute risk increase): the absolute difference in rates of bad events, when the experimental treatment harms more patients than the control treatment; calculated as for ABI.

NNH (number needed to harm): the number of patients who, if they received the experimental treatment, would lead to one additional person being harmed compared with patients who receive the control treatment; calculated as 1/ARI.

Confidence interval (CI): the CI quantifies the uncertainty in measurement; usually reported as 95% CI, which is the range of values within which we can be 95% sure that the true value for the whole population lies.

Terms used in diagnosis

Sensitivity: the proportion of patients with the target disorder who have a positive test result (a/[a + c]) (Figure).

Specificity: the proportion of patients without the target disorder who have a negative test result (d/[b + d]) (Figure).

Pretest probability (prevalence): the proportion of patients who have the target disorder, as determined before the test is carried out ([a + c]/[a + b + c + d]) (Figure).

Pretest odds: the odds that the patient has the target disorder before the test is carried out (pretest probability/[1 — pretest probability]).

Likelihood ratio (LR): the ratio of the probability of a test result among patients with the target disorder to the probability of that same test result among patients who are free of the target disorder. The LR for a positive test is calculated as sensitivity/(1 — specificity). The LR for a negative test is calculated as (1 — sensitivity)/specificity.

Post-test odds: the odds that the patient has the target disorder after the test is carried out (pretest odds × LR).

Post-test probability: the proportion of patients with that particular test result who have the target disorder (post-test odds/ [1 + post-test odds]).

		Target disorder	
		Present	Absent
Test result	Positive	a	b
	Negative	c	d

Comparison of test results with a diagnostic standard.

Using Bayes' nomogram to help interpret odds ratios

Introduction

In certain scenarios, the odds ratio (OR) provides an unbiased estimate of the rate ratio in case control studies.[1] However, the OR is also frequently used to estimate the risk ratio (relative risk) (RR) of an outcome in the presence of a risk factor. The degree of error in this estimate is frequently small, but can sometimes be substantial. The OR as an estimate of the RR always overestimates the effect of the exposure (results in an estimate further away from 1). The degree of divergence between the OR and the RR depends on the size of the OR and the probability of the outcome of interest (table).[2–4] Given the value of the baseline risk and the estimate of the OR, the RR can be estimated by the use of a formula.[3–5] However, the formula may be inconvenient and cumbersome for readers and users of epidemiological information. A nomogram is a graphical calculator that is a useful and convenient way to perform common calculations without the need to remember formulae. The use of the Bayes' nomogram[6] has simplified the use of diagnostic test information[7–8] and is now frequently used by physicians who may be unaware of the formula involved in the conversion. In this editorial, we show that the Bayes' nomogram, typically associated with likelihood ratios, can also be used to calculate the RR given the OR and the baseline risk.

Method

Our method uses 2 steps to convert from OR to RR, given a baseline risk. The first step uses Bayes' nomogram (figure).[6] Using a straight edge on the nomogram, line up the baseline probability of an event on axis A, with the OR on axis B, and read off the postexposure probability on axis C. The postexposure probability divided by the baseline probability then yields the RR. Thus, with available information on the OR from epidemiological studies and the baseline risk, Bayes' nomogram calculates the postexposure risk in the presence of the risk factor. Knowledge of the postexposure risk also allows easy and accurate calculation of the absolute risk difference and the number needed to treat (NNT)[9] or the number needed to harm (NNH).[10]

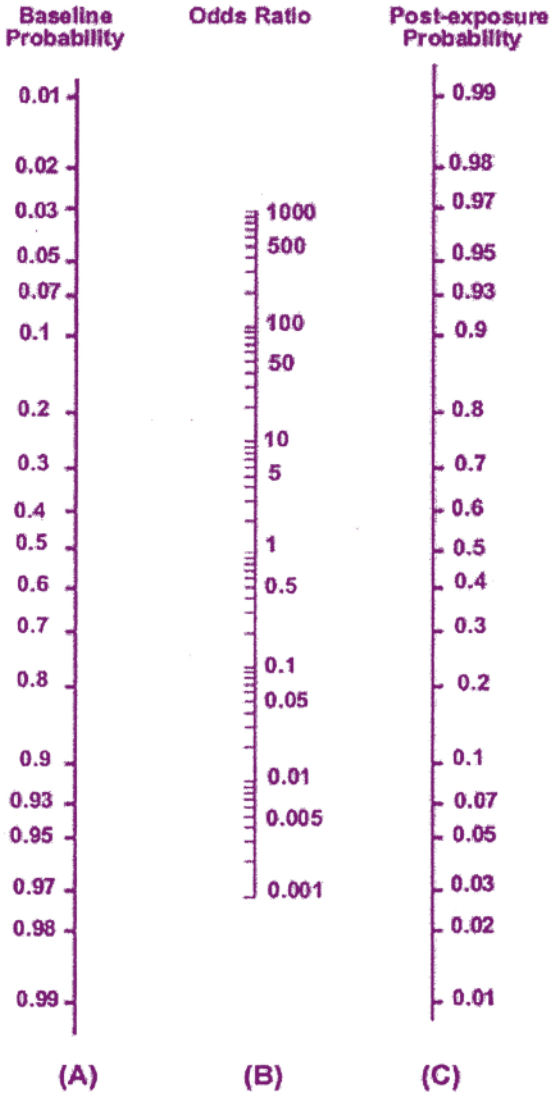
We present 2 examples to show the use of Bayes' nomogram to calculate postexposure probability, RR, absolute risk difference, and NNH.

*Degree of divergence between odds ratios (ORs) and relative risks (RRs)**

Baseline risk	Relative risk			
	0.5	0.75	2	4
5%	0.49	0.74	2.11	4.75
10%	0.47	0.73	2.25	6.0
20%	0.44	0.70	2.67	16.0
50%	0.33	0.60	NA	NA
70%	0.23	0.47	NA	NA

*NA = not available (ie, not calculable).

The table lists the ORs corresponding to various RRs and baseline risks. Notice that as the baseline risk increases, and as the RR is further from 1, the degree of divergence between the OR and the RR increases. Regardless of the magnitude of the RR, the OR is always further from 1 than the RR.



Nomogram to calculate postexposure probability given estimates of the odds ratio and baseline probability. This nomogram is equivalent to the Bayes' nomogram, but with different labels.

Example 1

We are interested in estimating the risk for precipitating heart failure in an older man who has started taking nonsteroidal anti-inflammatory drugs (NSAIDs) for arthritis. Our search reveals a recent case control study[11] suggesting an OR of 10.5 for developing heart failure associated with the use of NSAIDs by patients with a history of heart disease. To apply this information, we need to estimate our patient's baseline risk of heart failure. To do this, we use the equations derived by Kannel *et al* based on the Framingham database.[12] Using the example

given in that article of the 60 year old man with documented coronary disease who had a vital capacity of 2.5 l, systolic blood pressure of 160 mm Hg, heart rate of 85 beats/min, and evidence of left ventricular hypertrophy on electrocardiogram and cardiomegaly on chest radiogram, this patient's 4 year risk of heart failure is 34%. His 1 year risk is thus approximately 8.5%. Using Bayes' nomogram (figure), we anchor a straight edge at 0.085 (baseline risk) on axis A and direct it through axis B at 10.5 (OR). The postexposure risk can be read off axis C as 0.49, or a 49% chance of developing heart failure over 1 year after starting NSAIDs. The RR is then estimated by dividing the post-test probability, 49%, by the pretest probability, 8.5%, to get the RR of 5.8 (not an RR of 10.5 as some would misinterpret the OR). The absolute risk difference is 0.49 − 0.085 = 0.405. The NNH is the reciprocal of the absolute risk difference of 0.405, which is approximately 2.5. Thus, 5 such patients exposed to NSAIDs for a year would be expected to result in 2 new cases of heart failure.

Example 2

A meta-analysis compared endoscopic ligation with sclerotherapy for the treatment of esophageal variceal bleeding.[13] The overall rebleeding risk with sclerotherapy in the 7 included studies was 47%; the OR was 0.52 (95% CI 0.37 to 0.74) in favour of ligation therapy. Although it might be tempting to interpret this as a 48% relative risk reduction (RRR), this is not accurate. Using Bayes' nomogram and anchoring the straight edge at 0.47 (baseline risk) on axis A and 0.52 on axis B (OR), we read 0.32 on axis C, which is the probability of rebleeding with ligation (postexposure risk). To determine the RR associated with ligation compared with sclerotherapy, we divide 0.32 by 0.47, giving an answer of 0.68. This means that the RR is 0.68 and the RRR is 32% (1 − 0.68), not the 48% we would erroneously get if we equated the OR and RR without regard for the baseline risk and magnitude of the OR.

Discussion

ORs are frequently interpreted as RRs. Although the 2 are often very close, if the baseline risk is >10–20% and the magnitude of the OR is far from 1, the divergence can be substantial. In these cases, we have shown how a Bayes' nomogram can be used to conveniently calculate more accurate estimates of the RRs. Please note, however, that since the nomogram axes are on the logarithmic scale, interpolation requires some care. Numbers greater than a given mark on the scale will be further away than would be predicted by using a linear scale. Given the fact that the likelihood ratio is a form of OR, and indeed that the positive likelihood ratio divided by the negative likelihood ratio gives the OR, it is not surprising that the nomogram should be suitable for this purpose. However, in our experience with teaching evidence-based medicine, it is an application of Bayes' nomogram that is not commonly known or used.

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1 Rothman KJ, Greenland S. *Modern epidemiology*. Second edition. Philadelphia: Lippincott-Raven, 1998.
2 Davies HT, Crombie IK, Tavakoli M. When can odds ratios mislead? *BMJ* 1998;316:989–91.
3 Zhang J, Yu KF. What's the relative risk? A method of correcting the odds ratio in cohort studies of common outcomes. *JAMA* 1998;280:1690–1.
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Citation of material from the Notebook
Milne R, Hicks N. Evidence-based purchasing [EBM Note]. *Evidence-Based Medicine* 1996 May-Jun;**1**:101–2.

Citation for material taken from a structured abstract, written without attribution by a staff member
Antihypertensive drugs decrease mortality, coronary events, and stroke in elderly persons [abstract]. *Evidence-Based Medicine* 1996 May-Jun;**4**:105. Abstract of: Pearce KA, Furberg CD, Rushing J. Does antihypertensive treatment of the elderly prevent cardiovascular events or prolong life? A meta-analysis of hypertension treatment trials. *Arch Fam Med* 1995;**4**:943–50.

Citation for material taken from a commentary to an article
Olds D. Commentary on "Home visiting programmes reduce childhood injury." *Evidence-Based Medicine* 1996 May-Jun;**4**:112. Comment on: Roberts I, Kramer MS, Suissa S. Does home visiting prevent childhood injury? A systematic review of randomised controlled trials. *BMJ* 1996;**312**:29–33.

Journals reviewed for this issue*

Acta Obstet Gynecol Scand
Age Ageing
Am J Cardiol
Am J Med
Am J Obstet Gynecol
Am J Psychiatry
Am J Public Health
Am J Respir Crit Care Med
Ann Emerg Med
Ann Intern Med
Ann Surg
Arch Dis Child
Arch Gen Psychiatry
Arch Intern Med
Arch Neurol
Arch Pediatr Adolesc Med
Arch Surg
Arthritis Rheum
BJOG
BMJ
Br J Gen Pract
Br J Psychiatry
Br J Surg
CMAJ
Chest
Circulation
Cochrane Library
Crit Care Med
Diabetes Care
Gastroenterology
Gut
Heart
Hypertension
JAMA
J Am Coll Cardiol
J Am Coll Surg
J Am Geriatr Soc
J Clin Epidemiol
J Fam Pract
J Gen Intern Med
J Infect Dis
J Intern Med
J Neurol Neurosurg Psychiatry
J Pediatr
J Vasc Surg
Lancet
Med Care
Med J Aust
N Engl J Med
Neurology
Obstet Gynecol
Pain
Pediatrics
Rheumatology
Spine
Stroke
Surgery
Thorax

*Approximately 60 additional journals are reviewed. This list is available on request.

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Number Needed to Treat

It rolls off the tongue
six syllables
four words
two parts with a taste
of alliteration.
A number derived
from faith in numbers
and the sacrifice of number one
upon the altar
of absolute risk reduction.
It teaches
treating one patient
is rarely enough
to make a difference
to one patient.
It promises
cast this pill
into this many stomachs
and one day in at least one patient
your wish will come true.
One after another my patients thank me
for something
that will probably do nothing
except for that one -
eeny meeny miny moe.

Adam Possner, MD