

Attribution-NonCommercial-NoDerivs

Summary of Epidemiologic Measures of Association

CC BY-NC-ND

View License Deed

View Legal Code	Prevalence Ratio	Prevalence Difference	Risk Ratio	Risk Difference
Abbreviation	PR	PD	RR	RD
			Relative risk (imprecise	
Synonyms			terminology - don't use)	Attributable risk
				Among those who were
		Among those who were	Those who were exposed had	exposed, the risk of [outcome]
	Those who were exposed had	exposed, the prevalence of	[RR] times the risk of [outcome]	
	[PR] times the prevalence of	[outcome] was [PD] higher [or	compared to those who were	among those who were
	[outcome] compared to those	lower] than among those who	unexposed over [timeframe]	unexposed over [timeframe]
Interpretation in words	who were unexposed.	were unexposed	years of follow-up	years of follow-up
			Exposed were [RR] times as	
	Exposed were [PR] times as		likely to develop the outcome	
Informal interpretation in	likely to have the outcome		compared to unexposed over	
words	compared to unexposed		[timeframe] years of follow-up	
Sub-types				
		Prevalence among exposed		Risk among exposed
		*[First component of the		*[First component of the
		difference calculation (not a		difference calculation (not a
Numerator*	Prevalence among exposed	numerator)]	Risk among exposed	numerator)[
		Prevalence among unexposed		Risk among unexposed
		*[Second component of the		*[Second component of the
		difference calculation (not a		difference calculation (not a
Denominator*	Prevalence among unexposed	denominator)]	Risk among unexposed	denominator)]
		///////////////////////////////////////		/]
Formula				
(2x2 table abbreviations)	(a/(a+b))/(c/(c+d))	(a/(a+b))–(c/(c+d))	(a/(a+b))/(c/(c+d))	(a/(a+b))–(c/(c+d))
			NONE (must report time period	Cases per person (must report
Units	NONE	Cases per person	of follow-up)	time period of follow-up)
Range	0 - infinity	-1 - 1	0 - infinity	-1 - 1
				Per 100 (%); 1,000; 10,000; or
Common scaling factor	Not scaled	Percent	Not scaled	100,000 population
	Cross-sectional	Cross-sectional		
	Cohort (at baseline or for non-	Cohort (at baseline or for non-	Cohort	Cohort
Common study designs	outcome variables)	outcome variables)	Experimental	Experimental
where this measure is used	Ecologic	Ecologic	Ecologic	Ecologic
Associated measures	Prevalence	Prevalence	Risk	Risk
		2x2 Table	Diseased	Non-diseased
		Exposed	a	b
		ILAPUSCU	la	

Unexposed



Ricchetti-Masterson K, Lopes B, Yeatts KB. Summary of Epidemiologic Measures. UNC Gillings School of Global Public Health. October 2013.

С

d



Attribution-NonCommercial-NoDerivs

Summary of Epidemiologic Measures of Association

CC BY-NC-ND

View License Deed

View Legal Code	Rate Ratio	Rate Difference	Odds Ratio
Abbreviation	IRR	IRD	OR
	Relative risk (imprecise		Relative risk (imprecise
Synonyms	terminology - don't use)		terminology - don't use)
	L	Among those who were	
	Those who were exposed had	exposed, the rate of [outcome]	Those who were exposed had
	[IRR] times the rate of	was [IRD] higher [or lower]	[OR] times the odds of
	[outcome] compared to those	than among those who were	[outcome] compared to those
Interpretation in words	who were unexposed	unexposed	who were unexposed
			Exposed had [OR] times the
			odds to develop [for incident
			cases] or have [for prevalent
Informal interpretation in			cases] the outcome compared
words			to unexposed
			Prevalence odds ratio (POR)
Sub-types			Exposure odds ratio (EOR)
		Rate among exposed	Odds of being a case among
		*[First component of the	exposed
		difference calculation (not a	[for EOR - odds of exposure
Numerator*	Rate among exposed	numerator)]	among cases]
		Rate among unexposed	Odds of being a case among
		*[Second component of the	unexposed
		difference calculation (not a	[for EOR - odds of exposure
Denominator*	Rate among unexposed	denominator)]	among controls]
	(a/person-time at risk in	(a/person-time at risk in	
Formula	exposed)/(c/person-time at risk	exposed)–(c/person-time at	
(2x2 table abbreviations)	in unexposed)	risk in unexposed)	(a*d)/(b*c)
Units	NONE	Cases per person-time	NONE
Range	0 - infinity	-infinity - infinity	0 - infinity
		Per 1,000; 10,000; or 100,000	
Common scaling factor	Not scaled	person-years	Not scaled
<u>v</u>			Case-control (EOR)
			Cross-sectional (POR)
	Cohort	Cohort	Cohort
Common study designs	Experimental	Experimental	Experimental
where this measure is used		Ecologic	Ecologic
Associated measures	Rate	Rate	Odds
	ł	•	8
		2x2 Table	Diseased

Exposed

Unexposed



Ricchetti-Masterson K, Lopes B, Yeatts KB. Summary of Epidemiologic Measures. UNC Gillings School of Global Public Health. October 2013.

b d

a

С