

候选 SNP 位点 power 计算流程

使用 Power and Sample Size Program。SNP 方面的内容应该是二分类数据，下图是给出的相关文章的数据及相关软件的操作界面。

Table 2

Logistic regression analysis of associations between *STAT4* rs7574865 G/T polymorphisms and risk of rheumatoid arthritis and ankylosing spondylitis.

Genotype	Controls (n = 520)		RA ^a (n = 520)		AS (n = 100)		
	No. (%)	No. (%)	OR (95% CI)	P	No. (%)	Adjusted OR ^b (95% CI)	P
<i>STAT4</i> : rs7574865 G/T							
GG	252 (48.5)	213 (41.1)	1.00		42 (42.0)	1.00	
GT	212 (40.8)	240 (46.3)	1.34 (1.03-1.74)	0.027	46 (46.0)	1.31 (0.79-2.20)	0.299
TT	56 (10.8)	65 (12.5)	1.37 (0.92-2.05)	0.121	12 (12.0)	1.24 (0.56-2.72)	0.598
GT + TT	268 (51.5)	305 (58.9)	1.35 (1.05-1.72)	0.018	58 (58.0)	1.30 (0.80-2.11)	0.296
GG + GT	464 (89.2)	453 (87.5)	1.00		88 (88.0)	1.00	
TT	56 (10.8)	65 (12.5)	1.19 (0.81-1.74)	0.373	12 (12.0)	1.08 (0.51-2.27)	0.838
G allele	716 (68.8)	666 (64.3)	1.00		130 (65.0)	1.00	
T allele	324 (31.2)	370 (35.7)	1.23 (1.02-1.47)	0.028	70 (35.0)	1.19 (0.87-1.64)	0.285

Bold values are statistically significant ($P < 0.05$).

^a Genotyping was successful in 518 RA cases, 100 AS cases and 520 controls for *STAT4* rs7574865 G/T.

^b Adjusted for age and sex (not adjusted in allele comparison model).



Power and Sample Size Program: Main Window

File Edit Log Help

Survival t-test Regression 1 Regression 2 Dichotomous Mantel-Haenszel Log

Output

[Studies that are analyzed by chi-square or Fisher's exact test](#)

What do you want to know? Power

Design

Matched or Independent? Independent

Case control? Case-Control

How is the alternative hypothesis expressed? Odds ratio

Uncorrected chi-square or Fisher's exact test? Uncorrected chi-square test

Input

α p_0

n m ψ

Calculate

Graphs

Description

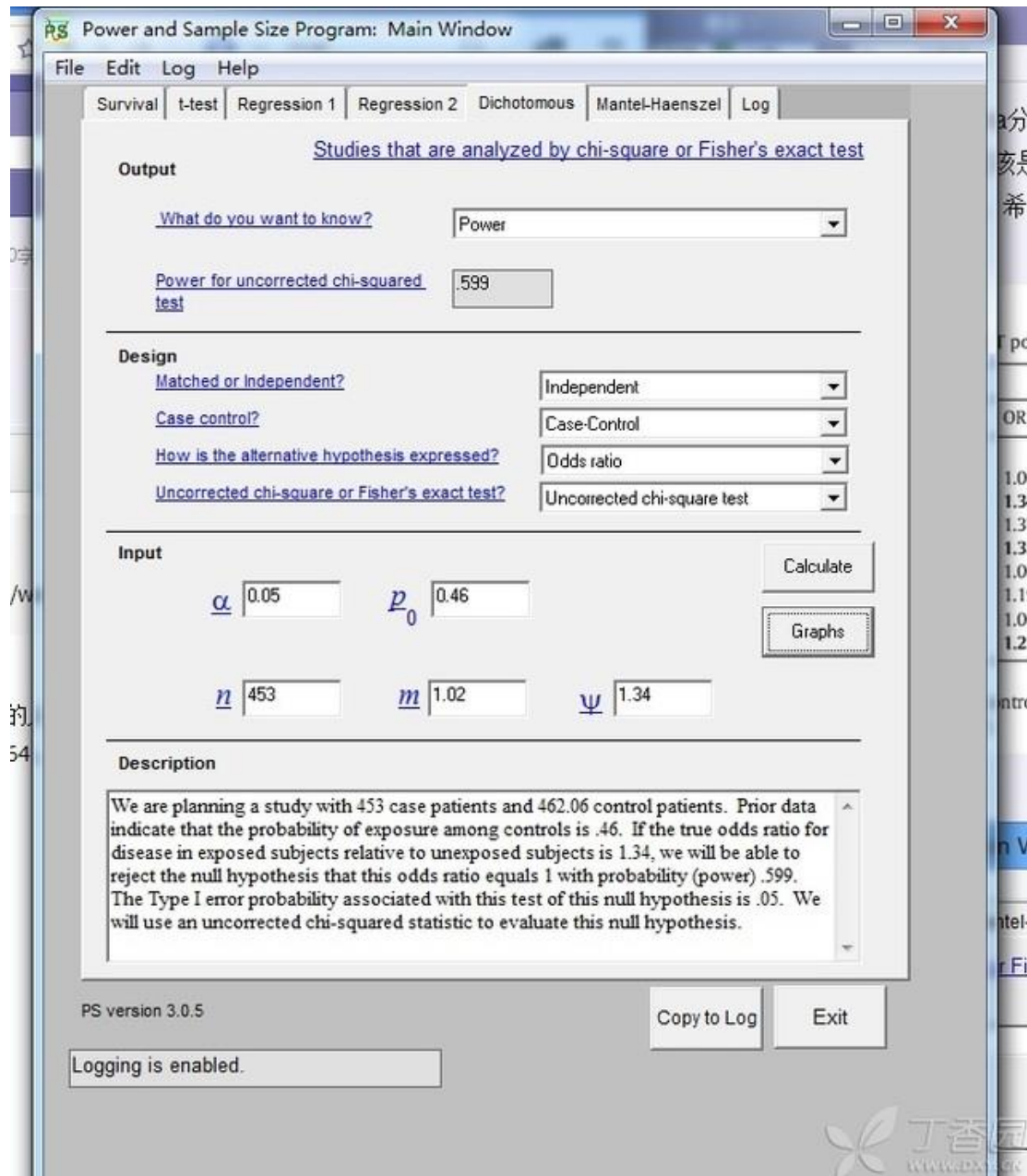
PS version 3.1.2

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Logging is enabled.



这里的 α 是检验水准即是 0.05, P_0 是对照组的暴露比例, n 是病例组的人数, m 是对照组与病例组的比值, 那个特殊符号即是 OR 值, 对你提供的资料: 比如 GT vs GG 这两行对照组人数是 464, 病例组是 n , 453, P_0 是危险基因的频率 212/464, m 即是 464/453, OR 值是 1.34, 代入计算 p_0



wer 是 0.559,其他以此类推。