应用 GraphPad Prism 制作生存曲线详细图文过程

来源:临床流行病学和循证医学 作者:曾琳,赵一鸣 时间:2019-08-17 阅读(24835)分类: 统计方法

▲ 男声 女声

应用 GraphPad Prism 制作生存曲线详细图文过程。医学研究中常常遇到的一类统计图——生存曲线。SPSS 也可以做 生存曲线,还能做细致的统计分析,但是 Prism 作图比 SPSS 灵活漂亮。下面我们就一起通过一个小例子看看怎么用 Prism 来做生存曲线吧。

1. 打开 Prism→选择 survival→选择第1 或第4个图

Show result as 中选择"Fractions"那么纵坐标是从 0-1, 选择"Percents"那么纵坐标是从 0-100。

Welcome to GraphPad Prism				×
				Version 5.01
Learn to use Prism Open a file	Available analyses • Kaplan-Meier • Log-rank • Wilcoxon-Gehan Organization of data ta	able		
New table & graph:	Sample data Start with an empty Use sample data	data table Comparing two groups		*
Column	Choose a graph			
Grouped		por ha	and and	<u></u>
Contingency	Selected graph: Sta	aircase with ticks (starting at 10	00%)	
Survival	Show result as:	Plot symbols at:	Error bars:	
	Fractions	(ii) All points	None	
Clone from:	Percents	Censored points only	SE SE	
Opened project			🔘 95% CI	
Recent project				
Saved example				
Shared example				

2. 点 create。这时需要录入生存数据了。数据的排列格式如下:

X	A	B
时间	A	B
X	Y	Y
1	0	
5	0	
3	0	
9	0	
7	0	
12	0	
10	1	
13	1	
16	1	
20	1	
1		0
5		0
3		0
9		0
13		0
20		1
22		1
24		1
28		1

2.1 第一列(X轴): 是研究中患者的随访时间。单位可以是月、年等。

2.2 第二列(A): 是第一组患者对应的生存或死亡的情况,这里 0 代表生存,1 代表死亡。第一行在表中是 1,0,说明该患者随访了 1 个月,1 个月随访时状态是生存,这一组第一个死亡的病例在表中是:10,1,说明该患者在 10 个月的时候死亡。

2.3 第三列(B): 是第二组患者对应的生存或死亡的情况。解释同上

3. 数据都录入好了我们就可以直接点左侧 Graphs 的 Data1



4.这样我们可以得到最初的生存曲线

Survival of Data 1:Survival proportions



但这曲线不能直接用,因为它不符合我们的统计要求,生存曲线需要Y轴的最高点是1或100%,这个图明显不合适。下面我们来改改这个图让它更符合我们的要求。

5. 把鼠标点向Y轴,双击;会出现以下对话框

ame and Origin X axis	Left Y axis	Right Y axis	Titles & Fonts				
Gaps and Direction:	Standard		 Scale: 	Linear		•	
Automatically deter	mine the range	e and interval	>				
Range			-	_	_	_	
Minimum:	0.0	ð.	Maximum:	1.5		J.	
All ticks							
Ticks direction:	Left	• Loc	ation of numbering	/labeling: Lef	t, horizor	ntal 🔫	
Ticks length:	Short	•					
Regularly spaced t	icks						
Major ticks interval:	0.5		Number format:	Decimal	•	Auto 💌	decimal places
Starting at Y=	0.0	=	Thousands	100000	-]
	0.0		Desfer	100000	C. 46.	-	-
Minor ticks:	0	▼ log	Pielik.		Suffix		
Additional ticks an	d grid lines						
At Y=	Tick	Line Text	Fonts? Greek	k? Details		Show additi	onal ticks:
						With re	egular ticks
						Insteal Only #	or regular ticks
						Only is	guiai licks

- 5.1 点击去掉 Automatically determine the range and interval
- 5.2 把 range 中的 maximum 改成 1.0
- 5.3 点击"OK"

就可以获得我们常常看到的生存曲线了。



6. 最后就是**曲线的美化**了。

6.1 双击任一生存曲线可以改变曲线的颜色,线型。改的同时图示中的颜色和线型也会同步改过来。

6.2 双击 Y 轴可以添加参考线。大多数研究会讨论中位生存时间,只要我们在图中双击 Y 轴,在"Additional ticks and grid lines"中写入 0.5(如果开始作图时选择"Percents"这里应写入 50)点选 Tick Line 在 Details 按钮中选择参考线的颜色和线型即可。

iaps and Direction:	Standard		- Scale:	Linear	•	
Automatically deter	mine the ran	ge and interval				
lange						
Minimum:	0.0	S	Maximum	1.0	5	
II ticks						_
Ticks direction:	Left	• U	ocation of numbering	/labeling: Left,	horizontal 🔹	•
Ticks length:	Short	•				
legularly spaced	ticks —					
Major ticks interval	0.2		Number format:	Decimal	• Auto	decimal places
Starting at Y=	0.0		Thousands:	100000	*	
Minor ticks:	0	• • 🗐 log	Prefix	S	uffix	
dditional ticks an	d arid line:	>				
At Y=	Tick	Line Tex	t Fonts? Gree	k? Details	Show add	tional ticks:
					@ With	regular ticks
0.5	1			and the second se	S	
0.5) Instea	ad of regular ticks
0.5					 Instead Only 	ad of regular ticks regular ticks
0.5 ormat Additional	Ticks and	Grids			© Inste	ad of regular ticks regular ticks
0.5 ormat Additional Select one or more t	Ticks and	Grids			© Inste	ad of regular ticks regular ticks
0.5 ormat Additional Select one or more t Y =	Ticks and ticks	Grids AtY =	0.5		 Instead Only 	ad of regular ticks regular ticks
0.5 ormat Additional Select one or more t Y = 0.5	Ticks and ticks Select All	Grids At Y = Text line 1:	0.5	3	© Inste	ad of regular ticks regular ticks
0.5 ormat Additional Select one or more t Y = 0.5	Ticks and ticks Select Al	Grids At Y = Text line 1: Text line 2:	0.5	3	 Instead Only 	ad of regular ticks regular ticks
0.5 ormat Additional Select one or more t Y = 0.5	Ticks and ticks Select Al	Grids At Y = Text line 1: Text line 2:	0.5	3	 Instead Only 	ad of regular ticks regular ticks
0.5 ormat Additional Select one or more t Y = 0.5	Ticks and ticks Select Al	Grids At Y = Text line 1: Text line 2: Show Tick Size	0.5	Thickness	© Instea © Only	ad of regular ticks regular ticks
0.5 ormat Additional Select one or more t Y = 0.5	Ticks and ticks Select All	Grids Grids At Y = Text line 1: Text line 2: Show Tick Size: Direction	0.5 Major	Thicknes	S: Auto	ad of regular ticks regular ticks
0.5 ormat Additional Select one or more t Y = 0.5	Ticks and ticks Select All	Grids Grids At Y = Text line 1: Text line 2: Show Ticles Size: Direction:	0.5 Major Auto	Thicknes	S: Auto	ad of regular ticks regular ticks
0.5 ormat Additional Select one or more t Y = 0.5	Ticks and ticks Select All	<pre>✓</pre> Grids Grids At Y = Text line 1: Text line 2: ✓ Show Ticl Size: Direction: ✓ Show Grid Thickey	0.5 Major Auto	Thicknes	S Auto	ad of regular ticks regular ticks
0.5 ormat Additional Select one or more t Y = 0.5	Ticks and ticks Select All	<pre>✓</pre> Grids Grids At Y = Text line 1: Text line 2: ✓ Show Ticl Size: Direction: ✓ Show Grid Thicknes	0.5 Major Auto	Thicknes Style:	s: Auto	ad of regular ticks regular ticks
0.5 ormat Additional Select one or more 1 Y = 0.5	Ticks and ticks Select All	 ✓ Grids At Y = Text line 1: Text line 2: ✓ Show Tick Size: Direction: ✓ Show Grid Thicknes Color: 	0.5 Major Auto	Thicknes Style: Over dat	a: Auto	ad of regular ticks regular ticks
0.5 ormat Additional Select one or more t Y = 0.5	Ticks and icks Select Al	<pre>✓</pre> Grids Grids At Y = Text line 1: Text line 2: ✓ Show Ticl Size: Direction: ✓ Show Grid Thicknes Color:	0.5 Major Auto	Thicknes Style: Over dat nd Y =	a points	ad of regular ticks regular ticks



这个例子里,A组的中位生存时间大概是18个月,B组的中位生存时间大概是23个月。当然,要是愿意增加25%或75% 都是可以的。只要在"Additional ticks and grid lines"中根据需要添加即可。

同样的,我们可以添加 X 轴的参考线,比如肿瘤预后研究中很关心 5 年生存率,这时我们只要双击 X 轴,在"Additional ticks and grid lines"中写入 60(月)或 5(年),点选上 line 即可。在这个栗子里,两组的 5 年生存率都是 0,所以我先以 1 年生存率的参考线画出来示意一下:



可见在这个例子中,A组1年生存率是100%,B组是80%。