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Crosstabs

A *Had complications? * Heparin lock placement time crosstabulation*

			Heparin Lock Placement Time		
			72 Hours	96 Hours	Total
Had Complications?	Yes	Count	9	11	20
		Expected count	10.0	10.0	20.0
		% within Heparin lock placement time	18.0%	22.0%	20.0%
	No	Count	41	39	80
		Expected count	40.0	40.0	80.0
		% within Heparin lock placement time	82.0%	78.0%	80.0%
	Total	Count	50	50	100
		Expected count	50.0	50.0	100.0
		% within Heparin lock placement time	100.0%	100.0%	100.0%

B *Chi-Square Tests*

	Value	df	Asymp. Sig. (two-sided)	Exact Sig. (two-sided)	Exact Sig. (one-sided)
Pearson Chi-Square	.250 ^a	1	.617		
Continuity Correction ^b	0.62	1	.803		
Likelihood Ratio	.250	1	.617		
Fisher's Exact Test				.803	.402
Linear-by-Linear Association	248	1	.619		
N of Valid Cases	100				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.00.
b. Computed only for a 2 x 2 table.

C *Symmetric Measures*

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.050	.617
	Cramer's V	.050	.617
N of Valid Cases		100	

FIGURE 8.2 SPSS printout of a chi-square analysis.

When the continuity correction is applied to the data in our heparin lock example, the value of χ^2 is reduced from 0.25 to 0.063, as shown in Panel B of Figure 8.2. In both cases, the null hypothesis would be accepted, but sometimes the application of Yates' correction alters a decision from rejection to acceptance of the null. If expected frequencies are large, the correction factor should probably not be applied.

When SPSS executes a command to produce the chi-square statistic, it also computes other similar statistics. For example, one is called the **likelihood ratio chi-square**, which is an alternative method of testing the null hypothesis of lack of relationship between rows and columns of a crosstab table. It is computed differently than the Pearson chi-square, but it is interpreted the same way and usually yields the



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