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**Lab 10: Ch 9 Analysis of Two-Way Tables**

1. Two drugs for the treatment of peptic ulcer were compared (Campbell and Machin, 1993). The results were as follows:

|  |  |  |
| --- | --- | --- |
|  | Healed | Not healed |
| Pirenzepine | 23 | 7 |
| Trithiozine | 18 | 13 |

Is there a significant difference between the proportions of individuals that healed for each treatment?

a) State the hypotheses and find the sample proportions of those that healed.

A: The null hypothesis is the proportions of individuals healed for each treatment are equal. The alternative hypothesis is that the proportions of individuals healed for each treatment aren’t equal.

b) Calculate the z-statistic and find the P-value.

A: The z-statistic is 1.547258 and the P-value is 0.1218.

c) Calculate the *X2* statistic and show that it is the square of the z statistic. Show that the p-value from the *X2* test is the same as in part (b).

A: The *X2* statistic is 2.394 and by inspection, it is the square of the z statistic. The p-value from the *X2* test is the same as in part b because *X2*cdf(*X2*-value,999,(r-1)(c-1))=0.1218.

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