Subject: Using chi-square or Fisher's exact test for differences between groups
Posted by TD on Mon, 06 Sep 2021 17:07:12 GMT

I am currently working on the 2018 Nigeria DHS and the 2019 Sierra Leone DHS using R for my statistical analyses.

I'm carrying out cross tabulation to compute the proportion of children that had received their full basic childhood vaccination between different exposure groups. I'm also using chi-square test and Fisher's exact test (if the conditions for chi-square test are not met i.e., more than 80% of expected values are less than 5 and some are less than 1) to assess the statistical significance of the differences between the different exposure groups (e.g., if 80% of fully vaccinated children live in urban areas and just 20% live in rural area how significant is this difference). However, for some of my variables Fisher's exact test does not work (an example of an error message I received is "LDSTP=18240 is too small for this problem")

Just wanted to clarify if Fisher's exact test can be used for DHS survey data or whether the svychisq function in R (which takes into account the survey design) should be used instead even if the conditions for the chi-square test are not met?

If not, please kindly suggest any further steps that can be taken.

Subject: Re: Using chi-square or Fisher's exact test for differences between groups
Posted by Shireen-DHS on Tue, 07 Sep 2021 13:03:10 GMT

Hello,

In general, we do not usually answer statistics question on this forum but questions on DHS data and calculations of DHS indicators. However, the chi-square test should work. I am confused why 18240 is too small. From your question I thought you were trying to compare vaccination between the two surveys so why not use the t-test to test the difference between two proportions?

Thank you.
Best,
Shireen Assaf
The DHS Program