

Clinical Reading Questions #4

HST 190: Introduction to Biostatistics

These discussion questions are based on Cranston et al. (2020).

1. Identify the main research question of the study.
2. Who are the subjects in this study, and how many are included?
3. How were subjects recruited? What effect might that have on the results? (possibility of bias, generalizability of results, etc.)
4. The Table reports the estimated prevalence (with confidence intervals) of various abnormal clinical and biological factors in the sample, as well as in subgroups having microcephaly and normocephaly. How do we interpret the reported results for premature birth among babies with microcephaly?
5. In the Table, notice that the proportions of subjects having each factor have different denominators. Why is that, and does it affect our understanding of these results?
6. The bar plots of Figure 2 simply duplicate the reported counts in the microcephalic and normocephalic groups from the Table. Do you find this figure adds insight beyond what is reported in the Table? Can you think of other visualizations of these results that might be more useful?
7. Suppose a colleague read this paper and concluded “babies born to women infected with Zika have more developmental abnormalities than babies born to women not infected with Zika.” Is this an appropriate conclusion from this paper? Why or Why not? Do the authors address this topic?

References

Cranston, Jessica S, Sophia Finn Tiene, Karin Nielsen-Saines, Zilton Vasconcelos, Marcos V Pone, Sheila Pone, Andrea Zin, et al. 2020. “Association Between Antenatal Exposure to Zika Virus and Anatomical and Neurodevelopmental Abnormalities in Children.” *JAMA Network Open* 3 (7): e209303. <https://doi.org/10.1001/jamanetworkopen.2020.9303>.