

Review of: "Associations between direct contact with the oil and worsened health indicators after Deepwater Horizon oil spill: Results from Gulf States Population Survey"

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Potential competing interests: No potential competing interests to declare.

Thank you very much for giving me the chance to review such an important article.

The article is well written and was easily understood due to the logical sequence of presenting the topic. I have only one important concern regarding statistical analysis. The authors reported three significance levels for their comparisons 0.05, 0.01 and 0.1. Actually this is a common - and serious- mistake. In any statistical comparison we must use only one significant level e.g. 0.05 (The most commonly used level especially in biostatistics). The seriousness of using three levels lies in the fact that a comparison may produce a P-value = 0.023, this could be interpreted as (Statistically significant) if we are using 0.05 significance level. At the same time, this comparison is (Non-statistically significant) if we are using 0.01 significance level. I suggest that the authors determine the desired level and re-consider interpreting the results according to this level. Otherwise, the results and conclusions are questionable.