The paper by Kponee et al describes the results of a survey that compared the prevalence of declared symptoms among inhabitants from two cities in the region of Ogoniland, Nigeria, a region highly impacted by petroleum extraction. In one of the cities, Ogale, the drinking water wells have been found by a UNEP study as contaminated with petroleum hydrocarbons, including benzene at concentrations reaching up to 1,800 times the US-EPA drinking water standard. The “control” city, Eteo, 10 miles away, was not reported with petroleum contamination in the UNEP assessment but was similar to Ogale with respect to race, language, culture, and behavioral practices.

The paper presents the results of a pilot study whose design and analysis is rather simple: 100 participants from each community were selected following a random sampling approach through door-to-door recruitment in three areas of both Ogale and Eteo. In both communities, a 98% response rate was obtained and data were collected by trained interviewers who administered standardized questionnaires in all respondents’ homes. Information was collected on the primary source of water (borehole well, sachet water or emergency government-supplied water) and its use for a variety of household activities including bathing, cooking, washing, drinking, and washing dishes and food; and on current health symptoms and medical history.

The self-declared symptoms prevalence was compared with simple Khi-square tests, followed by multivariate logistic regression models adjusting on gender, age, smoking status, occupation, and education level.

Despite important limitations in the quality of data that cannot be overcome at this late stage, this paper is of interest because it is one among the very rare that documents the health consequences of the activity of petroleum extraction by large international companies, activity that has been managed during decades in complete ignorance of the living environment and health conditions of local communities. These pilot study results will serve as a basis for further investigations, including quantitative assessment of exposure, and for the implementation of a long-term prospective cohort study, as recommended by UNEP.

As it stands, the paper does not meet the quality requirements for publication in the Journal but it can be improved.
Major Compulsory Revisions

My main recommendations bear on the tables; they are too many and their information can be transferred in the main text.

- Data from table 3 is not necessary; it should be presented in the appropriate paragraph of the Results section. Same comment for table 4A.

- Not sure that table 5 is really necessary. The hypothesis is that the main exposure is associated with borehole water. Now, individuals who receive emergency water or sachet water may consume also raw water because of instability in emergency water delivery, as this is stated in the discussion, so that their exposure to borewater is not null. This might explain why there is no difference in symptoms reporting according to the declared primary water source, a result that drove the authors to lump together all subjects in the following tables, irrespective of primary water source.

- Data from table 6 should be included in table 7 as a ‘grand category effect measure”, and the comments restructured accordingly in the text p 11-12

Minor Essential Revisions

- p: 12 (last paragraph). Given that there is probably a low access to medical services in the study area, that 14 persons reported a medical diagnosis of anemia in Ogale is quite surprising. So are the 4 cases reported in Oteo. Please comment. In the same paragraph, the sentence "although residents did not report their specific anemia diagnosis" is unclear. What does this mean ?

- Add a map of the study region with the location of the cities of Ogale and Eteo and, if possible of the main petroleum extraction wells.

- Edit GREE (Egree) in the References section (item 25)

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests