Reviewer's report

Title: Prognostic Factors Related to Sequelae in Childhood Bacterial Meningitis: Data from the Meningitis Registry

Version: 2 Date: 28 March 2011

Reviewer: mariel mckenzie finucane

Reviewer's report:

Major Compulsory Revisions:
1. I agree with comments #6 and #7 from Allan Tunkel. When rates of non-response are high, inference based on the subset of subjects with complete data registries may be misleading. Please note that neither large denominators nor small p-values alleviate this concern (as suggested in the authors’ response).

1a. At a minimum, please include a “percent missing” column in Tables 1a, 1b, 2, 3, 4, and 5 so that readers can easily identify those predictors for which results are based on a small subset of the study population. (As currently written, since the authors do not report how many subjects fall into each age group, an interested reader would not be able to calculate these percentages for Table 2 nor for those rows of Table 1a with an “a”, “b”, or “c” subscript.)

1b. Was the multivariate regression reported in Table 6 restricted to the <50% of subjects who had complete registries? If so, unless the authors can convincingly argue that these subjects represent a random subset of the total study population, I do not find this analysis informative and suggest that it be removed.

1c. By the same token, I would recommend removing those sentences from the text that describe results based on a small subset of the study population. I disagree with the authors’ claim that response rates of 66-87% are “high” for the purposes of making valid statistical inference.

2. The authors report more than 100 p-values in Tables 2-6 without correcting for multiple comparisons. The probability of a false positive result is thus substantial. I suggest that the authors use a more stringent criteria for statistical significance than p=0.05 or, at a minimum, report the number of “significant” tests that would be expected to occur by pure chance.

Minor Essential Revisions:
1. I believe there is an inconsistency between the second paragraph of “Clinical data” and the second paragraph of “Discussion”. Were seizures more or less common in children under one year of age?

2. Please clarify the third sentence in the second paragraph of “Data analysis”. Is this how candidate predictors were chosen for the backward selection?

3. I believe there is an inconsistency in the sixth sentence of “Sequelae and complications”. Were there 152 or 153 episodes of complications?
Discretionary Revisions:
1. In the abstract, it might be helpful to let readers know that these data come from a single hospital in Athens, Greece. Similarly, perhaps the title should be “Prognostic Factors Related to Sequelae in Childhood Bacterial Meningitis: Data from a Greek Meningitis Registry”.

Minor issues not for publication:
1. The second sentence in the second paragraph of “Clinical data” is tautological: “The most common findings in infants included… as these are the most likely clinical features in infants.”

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

Quality of written English: Needs some language corrections before being published

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

Declaration of competing interests:
I declare that I have no competing interests.