Reviewer’s report

Title: Are parents' knowledge and practice regarding immunization related to pediatrics’ immunization compliance? A mixed method study

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Reviewer: Bernard Guyer

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The researchers worked in Mosul, Iraq, studying children born between 2003 and 2008. They aimed to understand the relationship between parental KAP and immunization completeness. They found about half od the children to be completely immunized; about 2/3 of the parents had “adequate” KAP scores. There was some association between the two findings.

Major comments:

1. Unfortunately, this research design is based on the premise that it is parental KAP that determines children’s immunization coverage. The literature, however, shows that provider practices, knowledge and systems are an equally important, if not more important reason that children fail to get fully vaccinated. Thus the correlation between their two findings may be spurious, not causal.

2. The authors tell us very little about the characteristics of the vaccine delivery system; how do these clinics work? What is the quality of the delivery system? Are there “missed opportunities” for vaccination. To accurately explain the current low level of coverage, they would have needed to study the provider system as well as the parents.

3. The other fatal flaw in the paper may be more easily addressed in the analysis of the data. The authors need to report more data than just the relationship between “fully immunized” and “adequate” parental scores. What was the distribution of less-than-fully immunized. How many doses were missing and what was the age pattern of the doses given. The results would be very different if the children started late and never caught up vs. the pattern of missing many doses throughout childhood. Why did they decide to present only fully vs. partial immunization; if this presentation represents the only statistically positive finding, it is suspect. Similarly, one would like to see a factor analysis of the responses to the parental questions. Are some questions more important and revealing than others.

Other comments:

4. Finally, there are some methodological questions that are not addressed. Was only one child from each household included in the sample? The results are presented for all of the 528 children in the sample; was there no attrition? No missing data? How were these problems handled? Parents were asked about
issues like “vaccine storage;” why would they be expected to know this? Why were parents expected to now about “active” and “passive” vaccines? The discussion is mainly about the characteristics of the questionnaire, rather than about explaining vaccination completeness.

Level of interest: An article of insufficient interest to warrant publication in a scientific/medical journal

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

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

No competing interests.