

# Review of: "Acceptance of Childhood Rotavirus Vaccine Among Mothers at The Point of Rotavirus Vaccine Introduction: A case study from Awka Anambra State Nigeria"

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Potential competing interests: No potential competing interests to declare.

This study examines parents' acceptance of vaccinating their children against rotavirus in Nigeria, one of the nations with a high prevalence of rotavirus disease in children under five years old (56%), which is estimated to have caused 31,000 deaths in 2013. The study used a sample of 217 childbearing mothers who attended the clinics of Chukwuemeka Odumegwu Ojukwu University Teaching Hospital (COOUTH), a tertiary healthcare facility located in Awka, Anambra State, and owned by the state government. Descriptive analysis using cross-tabulation and inferential analysis using binary logistic regression were the methods of analysis employed. Based on Table 1, it was obtained that the majority of respondents were married (97.7%), Christian (97.2%), lived in urban areas (77.9%), had more than 13 years of schooling (77%), had income above the minimum wage (68.3%), and had children with a complete or up-to-date immunization history (84.5%). Table 2 shows that 76.5% of respondents had heard of rotavirus infection, while 86.5% of them had knowledge that a vaccine is the main preventive measure, and 69.3% were aware of the recent rotavirus vaccine introduction into the National Immunization Programme (NIP). The binary logistic regression model is presented in Table 3, with the response variable being the knowledge of rotavirus (1=yes (n=166) vs. 0=No. (n=51)). The researchers do not present the regression coefficients, only the adjusted odds ratio and a 95% confidence interval. Variables that significantly affect knowledge of rotavirus at a 5% level of significance are educational level, average monthly income, and socio-economic status.

This study used a small sample size relative to the number of estimated parameters. The regression model developed includes 23 estimated parameters while the sample size is 217. Although the authors did not include the model evaluation measure, I suppose that the performance of the model is relatively poor. This can be seen from the relatively small number of significant variables—just three of the seven independent variables employed are significant. Although the variables are significant, the confidence interval is relatively wide or the sign of the association is opposite to the theory or common sense. For example, compared to mothers in the lowest income group, mothers in the highest income group (above 120,000 NGN) are less likely to have knowledge of rotavirus. Similarly, mothers in high socioeconomic groups are less likely to know about rotavirus than mothers in lower socioeconomic groups. In my opinion, the authors should not have created socioeconomic status categories by reclassifying the average monthly income categories and using both of these variables simultaneously in the regression model. Furthermore, the sample used is not representative of minority groups, such as non-Christians, those with low incomes, people who live in rural areas, and people with low education.

This is probably due to the fact that the study's participants were those with access to tertiary healthcare facilities. I think that if the rotavirus vaccination is a national initiative, the samples that are used should come from primary public health facilities that are accessible to all groups in society. Finally, the study's findings show that mothers have a relatively high level of knowledge about and acceptance of the rotavirus vaccine, which means that—contrary to what the author suggests—interventions to lower the prevalence of rotavirus disease are actually more closely related to expanding access to the vaccine for minority groups than they are to the rotavirus vaccine campaign. Overall, the study's findings remain valuable but require careful analysis because of the several limitations I have already stated.