Reviewer's report

**Title:** Vaccination coverage and its determinants among migrant children in Guangdong, China

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**Reviewer:** Andrea Orsi

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In this manuscript Authors conducted a population survey on migrant children aged 12–59 months living in Guangdong, a developed province in southeast areas of China that attracted high number of migrants, in order to estimate the actual complete and age-appropriate immunization coverage for five vaccines (one dose BCG; three doses of HepB; three doses of DTP; three doses of OPV and one dose of MCV) and to determine the risk factors of up-to-date (UTD) immunization. UTD immunization rate was defined as the percentage of children completing required doses of vaccines regardless of immunization age of each dose. Authors used a cluster sampling method based on WHO indications and they collected data by using a standard questionnaire, including demographic characteristics of the surveyed child and the primary caregiver, the child’s migrant information, the primary caregiver’s knowledge and attitude toward immunization. Results highlighted lower immunization rates in migrant children than those reported through the National Immunization Information Surveillance System (NIISS) in recent years and the ministry of health goal of 90% coverage. The primary caregiver’s determinants associated with UTD immunization rate were primary caregiver’s occupation, knowledge about immunization and attitude toward immunization safety. The child’s determinants were sex, local household registration card, birth place and residential buildings; also family income resulted as an influence factor.

The argument is of very interest for the scientific community. The study has a very few limits, because analysis conducted by Authors are complete and accurate. As already cited by Authors, possible underestimation and overestimation of the immunization coverage rates, due to selection bias, may have occurred. Moreover, obtained results could not be extended to other areas, provinces or countries, due to the specific features of surveyed population.

The article does not need a revision of the English language. The cited limitations do not affect the overall manuscript quality, which is acceptable with minor essential revisions.

Below Authors can find some suggestions:

- Authors should re-format the manuscript in order to adhere to the general guidelines of the journal's style (http://www.biomedcentral.com/bmcpublichealth/authors/instructions/researcharticle): in particular, Authors should add an abstract and a conclusion paragraph.
- Page 6, lines 139-142: Authors should better explain how the attitude score and the immunization knowledge score were calculated
- Page 8, line 195: Authors should better explain how the age-appropriate immunization rates for HepB, OPV and DTP were calculated
- Page 10, line 241: There is a print refusal, point should be eliminated.

Level of interest: An article of importance in its field

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:
I declare that I have no competing interests