



TITLE: Factors Associated with Low Coverage of the Second Dose of Measles Containing Vaccine among Children Aged 19–59 Months in Alego-Usonga Sub-County in Siaya County, Kenya, 2020

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ABSTRACT

Introduction: The coverage of the second dose of the measles-containing vaccine (MCV2) in Kenya has remained low since its introduction in 2013. We assessed the MCV2 vaccination coverage and identified the factors associated with low MCV2 coverage.

Methods: We conducted a community-based cross-sectional study between July and August 2020 in the Alego-Usonga Sub-County targeting parents/guardians of children aged 19 – 59 months. We used the mother-child (MCH) booklet to identify the eligible children and interviewed their parents/guardians at the household level using structured questionnaires. We calculated mean, median, and standard deviations for continuous variables and frequencies and proportions for categorical variables. We calculated prevalence odds ratios (POR) at the bivariate level and adjusted prevalence odds ratios (APOR) at the multivariable level together with their corresponding 95% confidence intervals to identify factors associated with low MCV2 coverage. We considered those factors that had $p < 0.05$ at the multivariable level as independently associated with low MCV2 coverage.

Results: We interviewed 417 caregivers of the recruited children. Of these, 51.1% (213/417) children had received MCV2 vaccination. The MCV2 vaccination coverage was higher in Urban 58.0% (141/243) compared to rural 41.4% (72/174) populations. Factors that were independently associated with low MCV2 vaccination for the urban area included; a child's birth order (APOR 2.6; 95% CI=1.33–4.89) and caregiver education (APOR 1.9; 95% CI=1.10–3.31). For the rural; child's birth order (APOR 2.8; 95% CI=1.21–6.32); number of ANC visits (APOR 2.30; 95% C.I=1.17–4.52); caregiver not accompanied by the partner

to the clinic (APOR=2.6; 95.5% CI=1.26–5.32); and caregiver not preferring nearby health facility (APOR 2.6; 95% CI=1.32–5.22) remained significantly associated with low MCV2 vaccination. Major reasons for non-vaccination were lack of caregiver awareness of MCV2 and vaccine stock-outs.

Conclusion: The MCV2 coverage remained sub-optimal below the WHO-recommended $\geq 95\%$. Caregivers' lack of information on MCV2 and vaccine stock-outs were the main reason for the low coverage. Efforts should focus on raising public awareness of MCV2 vaccination.

Key Words: Measles, Vaccination, Coverage, Kenya

BIOGRAPHY

Joseph Ogutu has a broad range of experience in the health profession, including research, field epidemiology, monitoring and evaluation of health programs, international health regulations, environmental health, and disease surveillance and immunization. He has experience as a national emergency preparedness and response officer and a resident epidemiologist for the COVID-19 response. In addition to Rift Valley Fever, measles, cholera, malaria, salmonella, and acute febrile diseases, he has worked on various investigations into disease outbreaks. Joseph has an MSc in Field Epidemiology and Laboratory Training, as well as an MPH in Public Health with a concentration on monitoring and evaluation.



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