

## Abstract

### Introduction

Measles has been among the many vaccine-preventable diseases, and it remains a significant public health concern in Kenya. Immunization coverage is the most common indicator used to evaluate the performance of immunization services. This study aimed to assess the factors influencing measles-rubella second dose uptake among children aged 19-59 months in Mwingi Central sub-County.

### Materials and methods

We used a descriptive cross-sectional study design and recruited 380 mothers using stratified proportionate sampling. We later selected children who received the first dose of the Measles-rubella vaccine in 2020 by simple random sampling. We used a semi-structured questionnaire for data collection.

### Results

The measles-rubella uptake was 68.9% (262/380), while the different age groups of the mothers had the following uptake: 15-19 years, 20-24 years, 25-29 years, 30-34 years, 35-39 years and above 40 years were 60% (95% CI: 26.24% - 87.84%), 63.8% (95% CI 48.52% - 77.33%), 73.6% (95% CI: 65.16% - 81.01%), 70.1% (95% CI 60.93%-78.20%), 68.6% (95% CI 54.11%-80.89%) and 53.8% (95% CI 33.37%-73.41%) respectively. Client-related determinants were significantly associated with the mother's residence, employment status, religion, knowledge of the measles vaccination schedule and on the uptake of the second dose of the measles-rubella vaccine (P-value < 0.05). Facility-related determinants showed a significant association between distance from households, the facility always being open and the uptake of the second dose of the measles-rubella vaccine for children between 19 -59 months (p-value < 0.05).

## Conclusion

The measles-rubella vaccine uptake was above average (68.9%), and uptake of the second dose was significantly associated with client-level and facility-related factors. The authors recommend that the Mwingi central sub-county health management team ensure the education of the population of its catchment area on the measles-rubella second dose vaccination schedule and that all immunizing health facilities are always open. Moreover, it should provision of outreach services for hard-to-reach communities.