

## Surveillance for Epidemiologic Evaluation of COVID-19 in Kenya (SEECK)

### Key messages

- Exposure to SARS-CoV-2 is high in the two slum communities.
- Exposure is highest among individuals aged 10 years and older.
- Risk perception is poor with a lot of individuals assuming that they are not a risk.
- There are some differences by place of residence but not by gender.
- Past exposure to SARS-CoV-2 does not mean one is immune. Antibodies wear off and levels might not be protective.

### Introduction

As the COVID-19 pandemic evolves, it is important to know the extent to which the public has been exposed to the infection. Knowing the levels of exposure is important for informing decisions on vaccination and other prevention measures such as lockdown and curfews. Before this study, we did not know the proportion of people who had been exposed to COVID-19 in Kenya since no representative population-level study had been conducted.

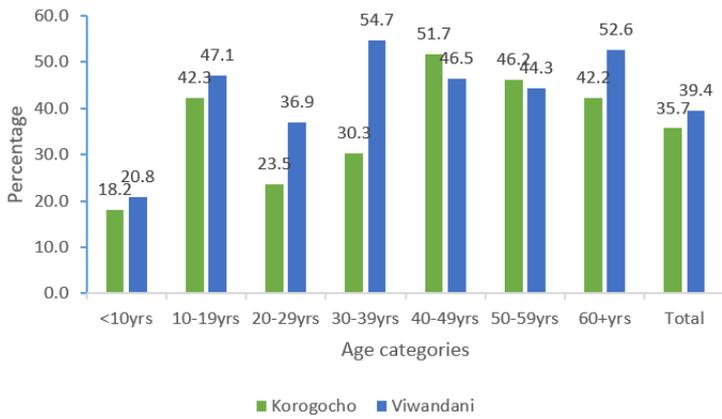
The African Population and Health Research Center (APHRC) worked collaboratively with KEMRI-Wellcome Trust in Kilifi to estimate the proportion of individuals who had previous exposure to COVID-19 as evidenced by the presence of antibodies against SARS-CoV-2 in their blood.

We used the Nairobi Health and Demographic Surveillance System database to randomly select residents from two urban informal settlements in Nairobi City- Korogocho and Viwandani. Each participant was interviewed and a blood sample taken for laboratory investigations. We conducted the study between January and May 2021 before vaccination against COVID-19 became widely available.

### Results

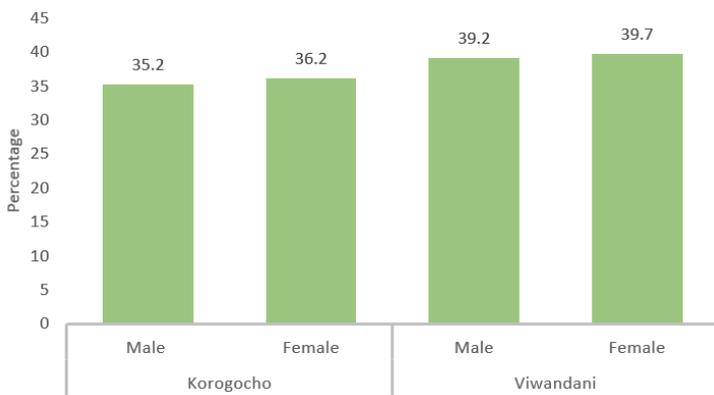
#### a) SARS-CoV-2 Prevalence

We interviewed and took blood samples from 869 participants. Out of these 336 (38.7 %) were from Korogocho and 533 (61.3%) were from Viwandani community. Overall, nearly two out of every five residents tested positive for SARS-CoV-2 antibodies (38%).



**Figure 1: Prevalence of SARS-CoV-2 antibodies by age among residents of Korogocho and Viwandani, Nairobi.**

Prevalence was lowest among 0-10 years followed by 20-29 years. There were some differences in prevalence by slum whereby Viwandani had a higher prevalence overall and by age categories with exception of 40-49 years and 50-59 years. Overall, both genders demonstrated a high risk of exposure to SARS-CoV-2 infection from both slums as shown in Figure 2.

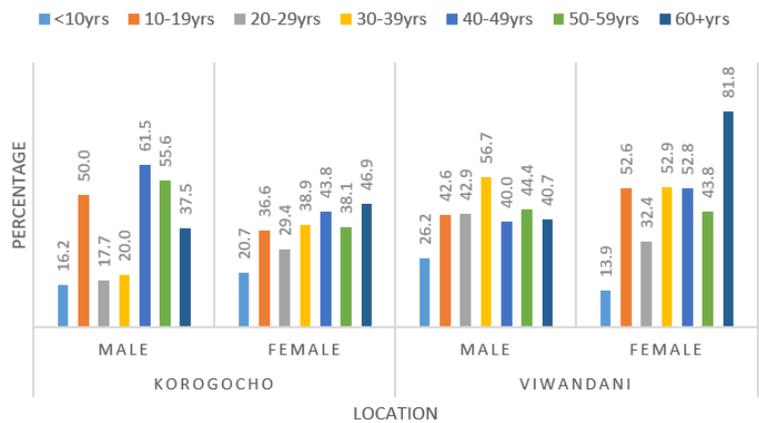


**Figure 2: Prevalence of SARS-CoV-2 antibodies by gender and slum**

### b) Perceptions on the risk of acquiring SARS-CoV-2

We asked participants to assess their own risk of getting infected with SARS-CoV-2. About 43% of respondents aged 15 years and above indicated their own risk of acquiring COVID-19 was nil or low. Nearly half of all individuals who said that their risk

of acquiring COVID-19 was nil had antibodies indicating that they had previously been exposed to the infection. This proportion was even higher among females from Viwandani residents where 66.7% of those who indicated that they had nil chances of contracting COVID-19 indeed had SARS-CoV-2 antibodies, Figure 3.



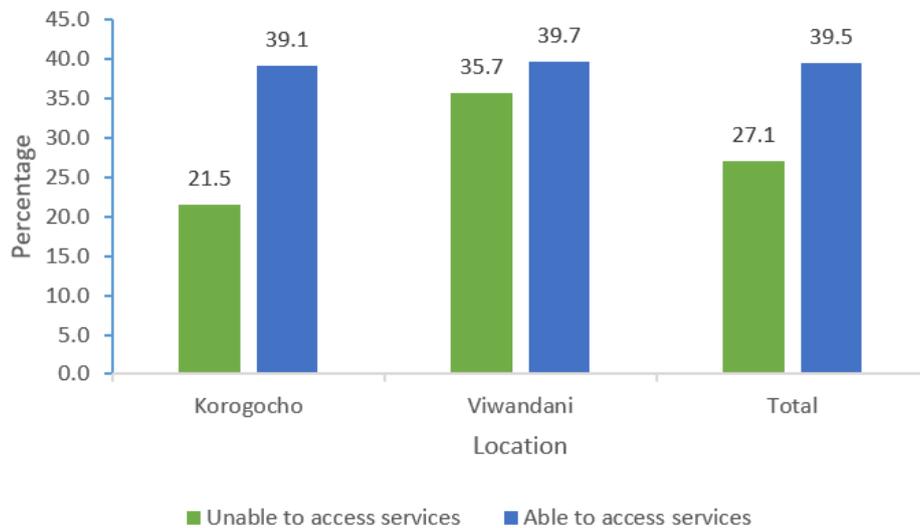
**Figure 3: Perceptions on the risk of acquiring SARS-CoV-2 by gender and place of residence**

### c) Inability to access services

We assessed access to health services that individuals would ordinarily receive were it not for the COVID-19 pandemic. In general, 12.3% of all respondents indicated that they were not able to access services. This proportion was higher for Korogocho (19.4%) compared to 7.9% in Viwandani. Figure 4 shows the prevalence of SARS-CoV-2 antibodies among people who had been unable to access services and those who had not been affected.

Overall, the prevalence of SARS-CoV-2 among those who had

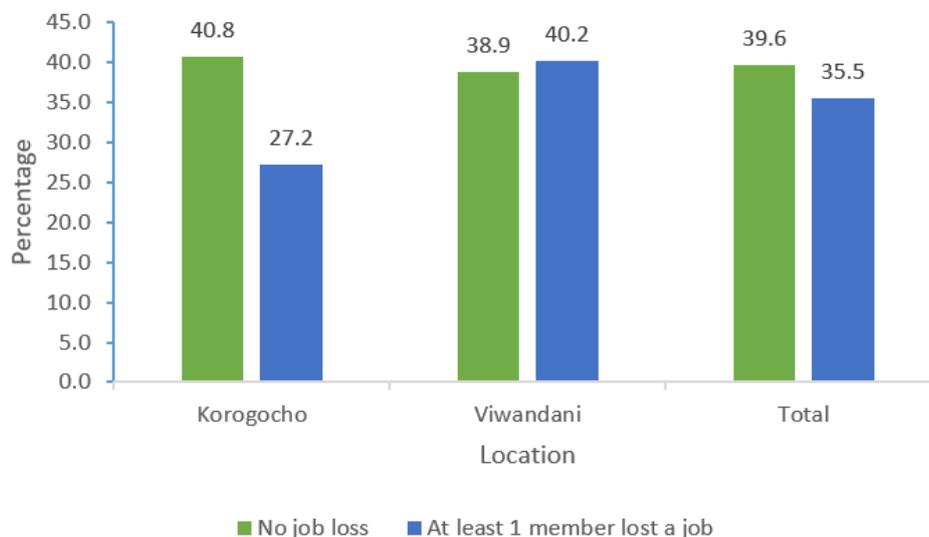
missed health care services due to COVID-19 was 27.1% compared to 39.5% among those who had not missed services



**Figure 4: Prevalence of SARS-CoV-2 antibodies by access to healthcare services and place of residence**

#### d) Loss of jobs/ income generating activities

About 40% of respondents indicated that they or somebody in their household had lost a job or income-generating activity in the last six months with a higher proportion in Viwandani (41.1%) than Korogocho (37.2%). Figure 5 shows that in Korogocho there was a higher prevalence of SARS-COV-2 antibodies between individuals from households that had a member who lost a job/income-generating activities (27.1%) compared to those where there was no loss of jobs or other income (40.8%), Fig. 5.



**Figure 5: Prevalence of SAR-COV-2 antibodies by work status and place of residence**



**African Population and  
Health Research Center**

### About the African Population and Health Research Center

The African Population and Health Research Center is the continent's premier research institution and think tank, generating evidence to drive policy action to improve the health and wellbeing of African people.

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