



# Factors Associated with Uptake of COVID-19 Vaccine among Pregnant Women Utilizing Antenatal Care Services at Pumwani Maternity Hospital in Nairobi County, Kenya

Author 1 Nyawela Simon Nyibil<sup>1</sup>, Author 2 Prof. Gideon Kikui, PhD<sup>2</sup>, Author 3 Isabel Kazanga Chiumia, PhD<sup>3</sup>  
(Nyawela Simon Deng Nyibil)

<sup>1</sup>Institution Jomo Kenyatta University of Agriculture and Technology, Juja, Nairobi, Kenya, <sup>2</sup>Institution Kamuzu University of Health Sciences, Blantyre, Malawi

- In comparison to Kenya's national COVID-19 immunization objective by the end of 2022, the uptake of the COVID-19 vaccine among pregnant women using antenatal care services at Pumwani Maternity Hospital in Nairobi County was low. Marriage, secondary education, and employment were the individual-level characteristics linked to the uptake of the COVID-19 vaccine among pregnant women using antenatal care services at Pumwani Maternity Hospital in Nairobi County.

## BACKGROUND

- Pregnant women are a highly vulnerable population for COVID-19 with increased risk of hospitalization, intensive-care unit admission, invasive ventilation support, and mortality. Objective: This study determined the socio-demographic and economic factors associated with the uptake of the COVID-19 vaccine among pregnant women utilizing antenatal care services in Pumwani Maternity Hospital, Nairobi County-Kenya.

## METHODS

- The study was carried out from 15 June to 23 July 2023.
- Systematic sampling was used to select 302 women attending ANC clinic.
- Data was collected through face-to-face interviews using a pre-tested semi-structured questionnaire.
- Data was analyzed using SPSS software in which bivariate and multivariate logistic regression analyses were done at a significance level of  $p < 0.05$ . Results: A total of 302 pregnant women participated in the study.

## RESULTS

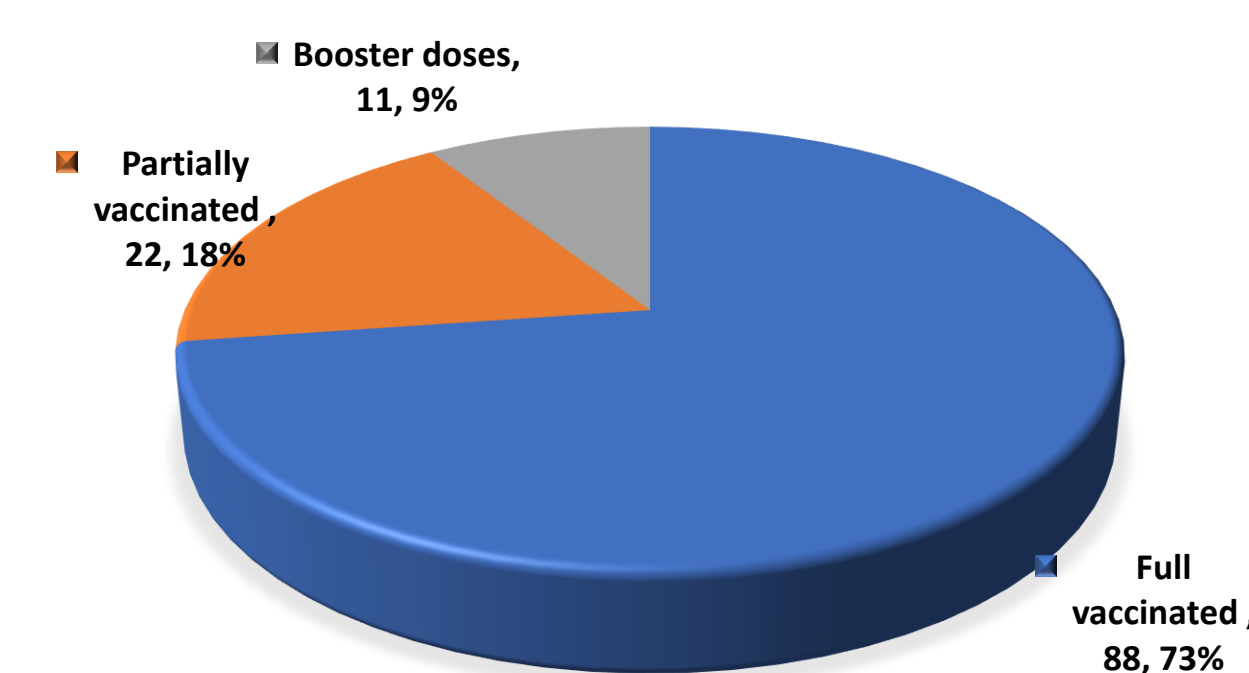
- The mean age of the women was  $28.60 \pm (SD = 5.297)$ .
- The uptake of the COVID-19 vaccine was 41.1%.
- The common side effects reported to be associated with the vaccines were fever, headache, joint pain, vomiting and skin rash
- Uptake of the COVID-19 vaccine was significantly associated with being married (AOR = 3.65, 95% CI: 0.62 - 1.80,  $p = 0.001$ ).
- A secondary level of education (AOR = 3.78, 95% CI: 0.99 - 2.88,  $p = 0.001$ ).
- Employed (COR = 2.66, 95% CI: 1.31 - 3.06,  $p = 0.001$ ).

**Table: Individual-Level Factors Associated with the Vaccine Uptake**

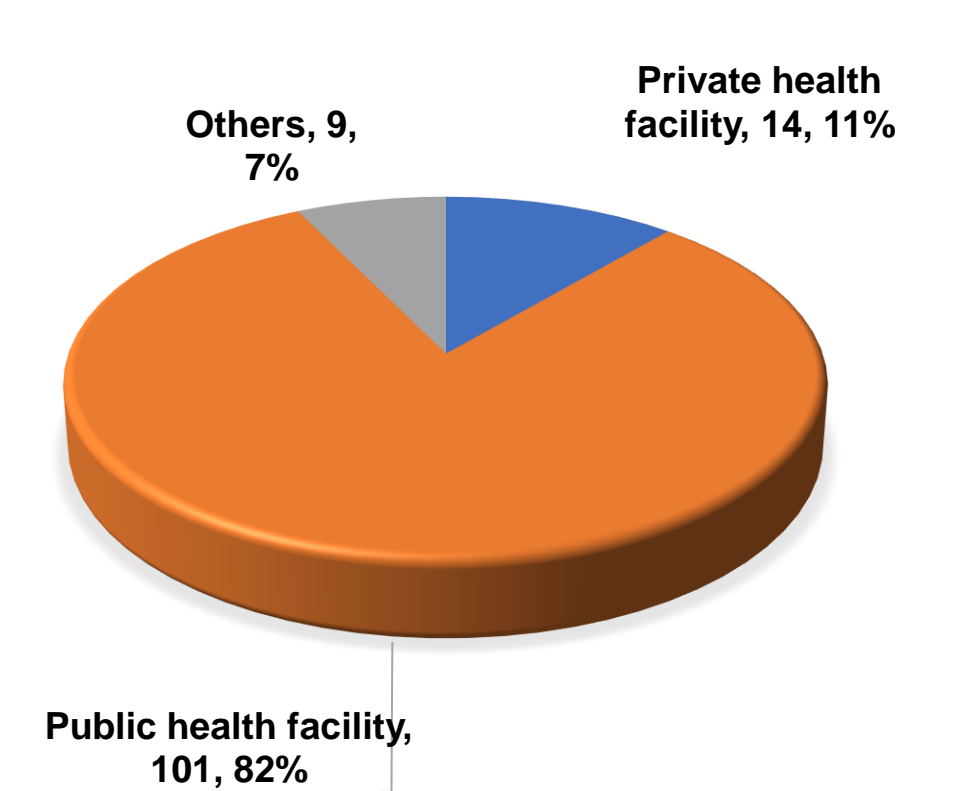
Variable	Categories	Taken Up COVID-19 Vaccine	Not Taken Up COVID-19 Vaccine
Marital Status	Cohabiting	2(66.7%)	1(33.3%)
	Divorced	2(25.0%)	6(75.0%)
	Married	91(42.9%)	121(57.1)
	Not Married	29(36.7%)	50(63.3%)
Highest level of education	No Formal Education	3(30.0%)	7(70.0%)
	Primary Education	17(33.3%)	34(66.7%)
	Secondary Education	66(41.0%)	95(59.0%)
	Tertiary Education	38(47.5%)	42(52.5%)
Employment Status	Employed	45(54.9%)	37(52.5%)
	Housewife	44(35.5%)	80(64.5%)
	Not Employed	35(48.6%)	37(51.4%)
	Self Employed	0(0.00%)	0(0.00%)
	Others	0(0.00%)	24(100.0%)
Average Monthly Income	10,000- 50,000ksh	60(48.8%)	63(51.2%)
	60,000-100,000ksh	7(53.8%)	6(46.2%)
	Above 100,000ksh	2(66.7%)	1(33.3%)
Religious Affiliation	Non	55(33.7%)	108(66.7%)
	Christian	104(42.4%)	141(57.6%)
	Muslim	20(35.1%)	37(64.9%)

## RESULTS CONTINUED

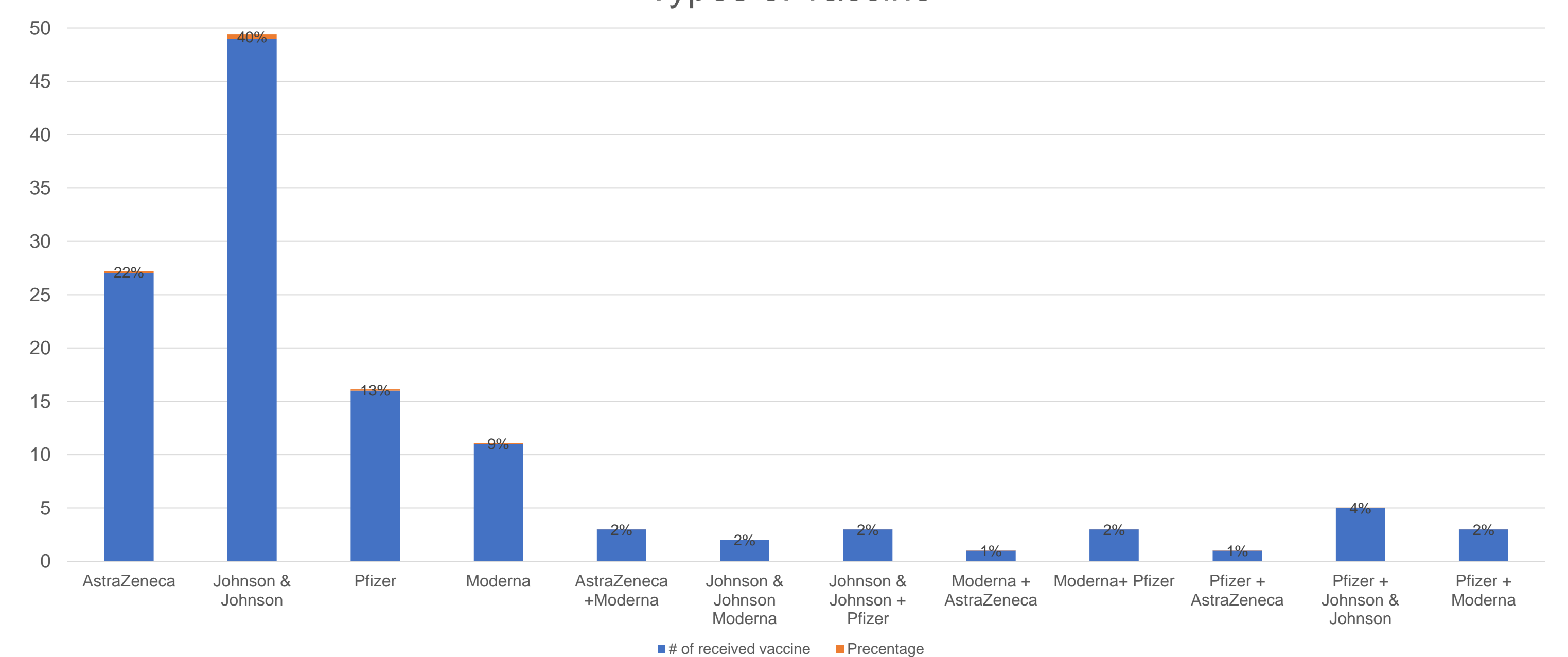
### VACCINATION STATUS



### PLACES OF VACCINATION



### Types of vaccine



## CONCLUSIONS

- COVID-19 vaccination uptake remains low among pregnant women in seeking ANC in Nairobi.
- The individual factors associated with the uptake of the COVID-19 vaccine among pregnant Women at Pumwani maternity hospital in Nairobi County were being married, having secondary level of education and being employed.
- Integration of the COVID-19 vaccine with other routine vaccinations as per the national immunization program in Kenya and the enhancement of education regarding the safety and efficacy of the COVID-19 vaccine in pregnancy and breastfeeding and economic empowerment of women are recommended.

## ADDITIONAL KEY INFORMATION

Other Key Information: Keywords COVID-19, Vaccine Uptake, Associated Factors, Pregnant Women

Additional Resources: JKUAT

Author Contact Information: [nyawelasimon@gmail.com](mailto:nyawelasimon@gmail.com) +211922993031

Funding Source: EPCTP

Conflicts of Interest: NO

Acknowledgments: The Second European and Developing Countries Clinical Trials Partnership (EDCTP2) Supported by the European Union (EU), Strengthening Capacity of Epidemic Preparedness and Response in Sub-Saharan Africa, SCEPRESSA Project