

Acceptability of COVID-19 Vaccine among Healthcare Workers in Kenya

Key messages

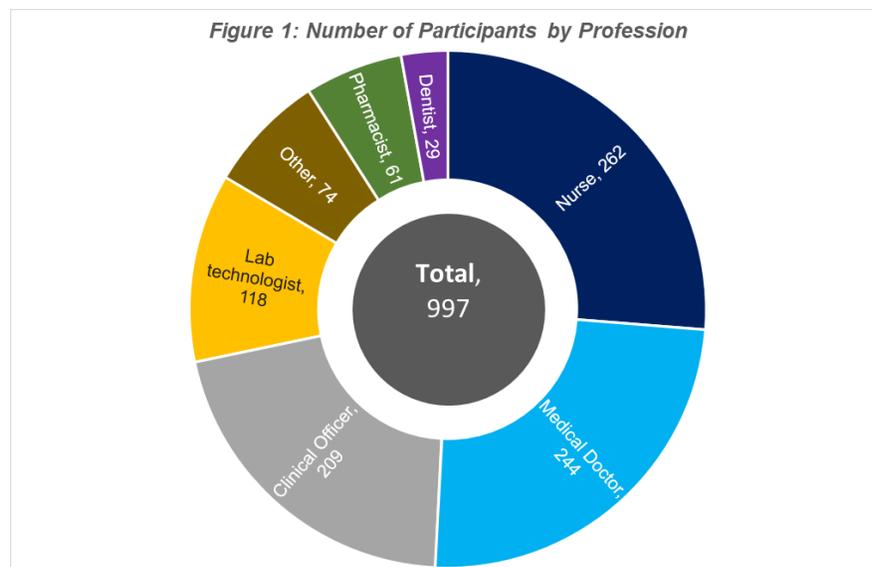
- ⊖ The majority (71%) of healthcare workers would take a Covid-19 vaccine.
- ⊖ Since this data was collected in January 2021 before any Covid-19 vaccine was availed in the country, it is likely vaccine acceptability has increased. This is the trend globally, that vaccine enthusiasm increases as more information on Covid-19 vaccines is availed and more people are seen to be taking it without any serious adverse events.
- ⊖ A significant proportion (29%) of healthcare workers would decline the vaccine.
- ⊖ This underlines the need to amplify the ongoing education efforts among healthcare providers as well as the general population.
- ⊖ Passing the correct information in a simple, transparent and accessible format is likely to increase vaccine confidence.

The Covid-19 vaccine is an important tool for controlling Covid-19 in Kenya and globally. It will reduce the risk for severe Covid-19 thus decrease the number of hospital admissions and deaths. Vaccine uptake will determine how soon we can achieve herd immunity and begin to re-open the world economy. Healthcare workers (HCWs) will play a central role in the vaccination campaign and vaccine uptake among HCWs is likely to reflect or influence uptake in the general population.

This study was conducted in January 2021 among HCWs in Kenya. The aim of the study was to assess knowledge, preparedness and perception of risk for infection with COVID-19 among healthcare workers in Kenya. It was conducted through a self-administered online Questionnaire on REDCAP (<https://redcap.link/5d2pzwic>). The study was approved by the KNH-UoN Ethics and Research committee.

Characteristics of the Respondent's

We enrolled 997 HCWs from all counties in the Country. The number of respondents per cadre is shown in figure 1.



All medical practitioners, dentists and pharmacists were analyzed in one category, as doctors.

The respondents were drawn from different health facilities as shown in figure 2.

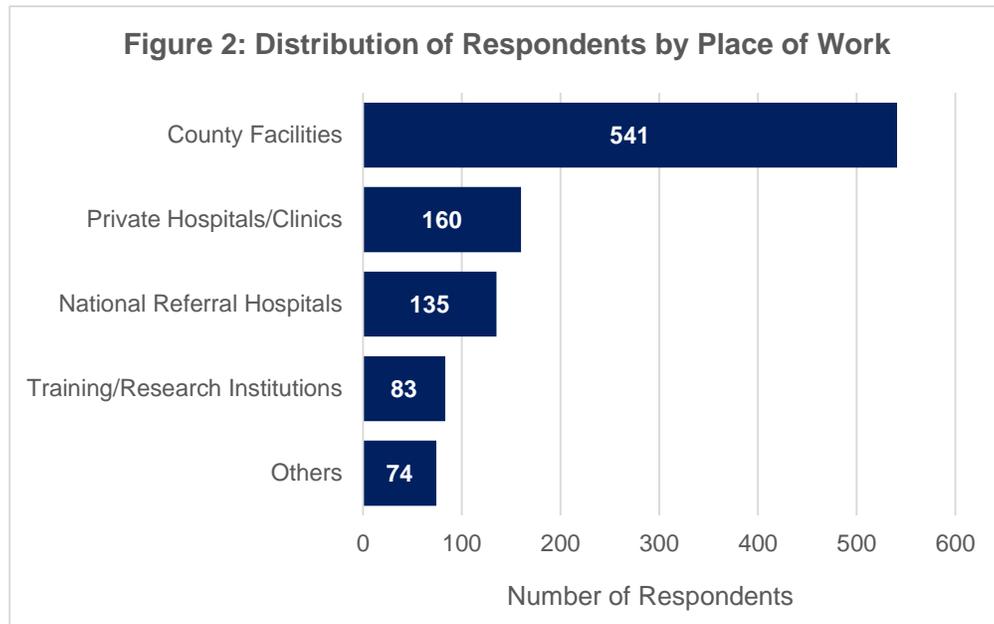
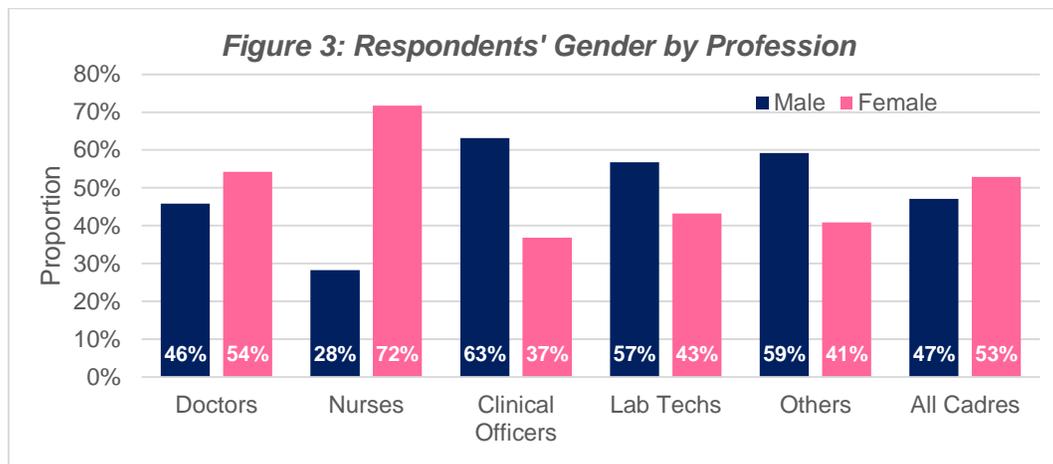


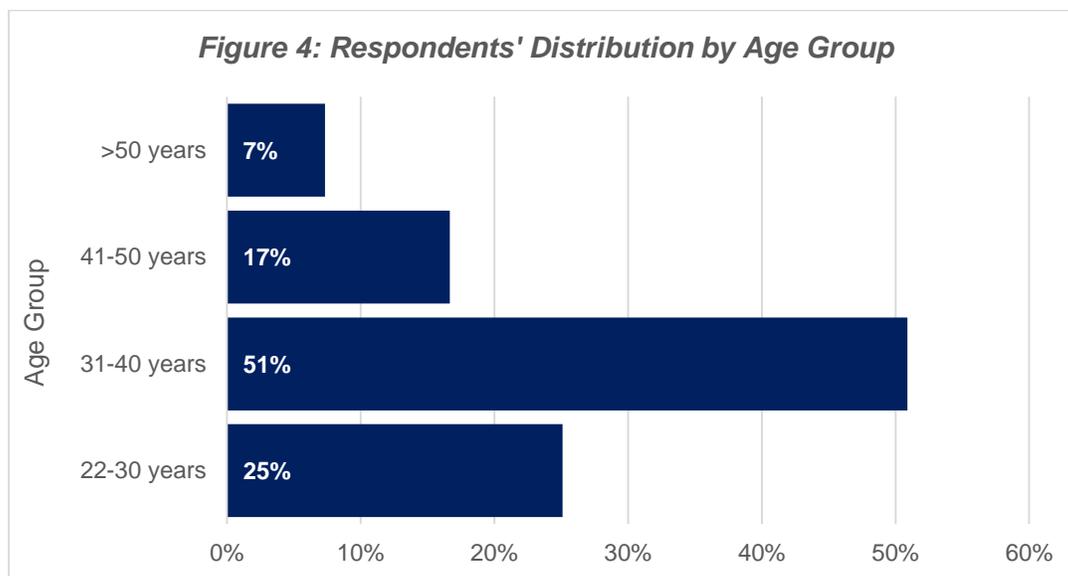
Table 1: Number of Respondents per County

NAIROBI-278, NAKURU-53, BUSIA-51, KIAMBU-42, MACHAKOS-39, HOMA BAY-32, UASIN GISHU-31, BUNGOMA-29, SAMBURU-28, TAITA TAVETA-28, KILIFI-27, MAKUENI-25, MOMBASA-24, KAJIADO-23, KAKAMEGA-22, KISUMU-21, LAIKIPIA-15, NYERI-15, BOMET-14, MERU-14, KERICHO-12, KIRINYAGA-9, KISII-9, KITUI-9, ELGEYO-MARAKWET-8, MANDERA-8, GARISSA-7, KWALE-7, LAMU-7, TRANS-NZOIA-7, WAJIR-7, EMBU-6, MIGORI-6, MURANGA-6, TURKANA-6, ISIOLO-5, NYAMIRA-5, THARAKA NITHI-5, SIAYA-4, VIHIGA-4, WEST POKOT-4, BARINGO-3, NAROK-3, NYANDARUA-3, TANA RIVER-3, MARSABIT-2, NANDI-2

Fifty-three percent of all respondents were female. The gender distribution by cadre is shown in figure 3.



The mean age of all respondents was 36.5 years (Standard deviation (SD) = 8.31). The mean age was 35.9 years for Doctors, Nurses 38.8, Clinical Officers 36.0, Lab Technologists 35.7, and others 34.0 years. The mean age for nurses was significantly higher than that of other respondents (38.8 vs 35.7 years, p value <0.001). Figure 4 shows respondents' distribution by age group.

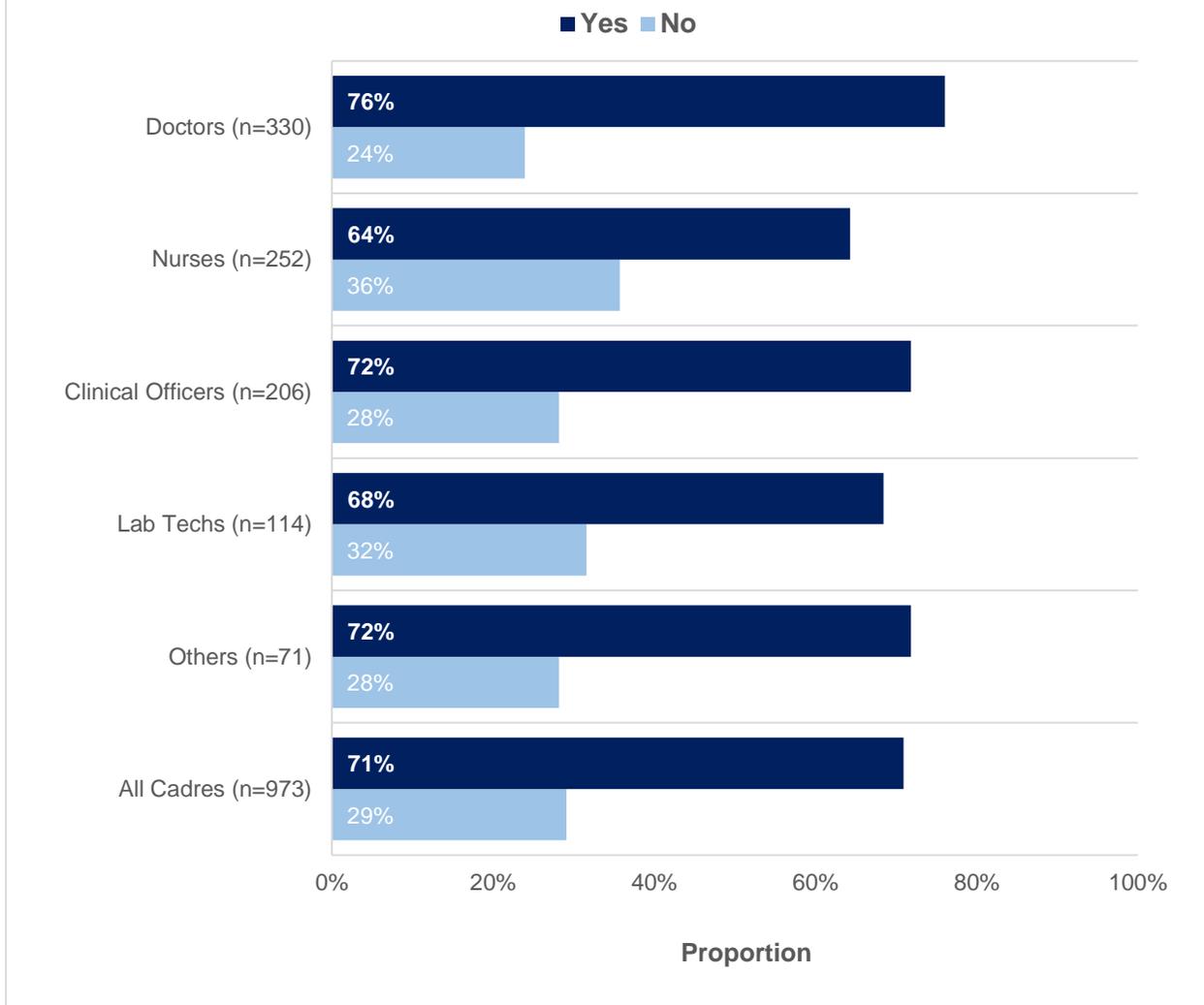


Forty-seven percent of all respondents were 36 years or older. This included 49% of doctors, 57% of nurses 41% of Clinical officers 43% of Lab technologists and 31% of other respondents.

Vaccine Acceptability:

Overall, 71% of all Healthcare workers would take a vaccine if provided free by the government. Doctors were most likely (76%) while nurses were least likely (64%) to accept the vaccine. Vaccine acceptability for each cadre is shown in figure 5.

Figure 5: Vaccine Acceptability among Healthcare Workers



Men were more likely to accept the vaccine than women (77% vs 66%, $p < 0.001$). HCWs working in Covid-19 isolation centres or testing labs were less likely to accept the vaccine (62% vs 73%; $p = 0.002$). Nurses were also less likely to accept a Covid-19 vaccine as compared to other cadres (64% vs 73%; $p = 0.007$).

Notably, there was no association between HCWs willingness to take the vaccine and the perceived risk of infection with Covid-19 ($p = 0.8$). Mean Knowledge score based on a set of 15 questions was higher in HCWs who would accept than in those who would not, but the difference was not statistically significant (79.2% vs 77.9%; $p = 0.36$). Other factors tested for correlation are summarized in table 2.

Reasons for declining/delaying Vaccine:

Thirty percent (85/283) of HCWs who would not take the vaccine reported various reasons for their decision. These reasons were safety concerns (22%), need for more information (14%), fear of side

effects (11%), lack of trust in the government or the vaccine (11%), short duration that vaccine development has taken (7%) and concerns on efficacy (6%). A quarter had other concerns such as fear of the unknown, perceived low risk of infection, expectation of herd immunity and concerns why healthcare workers should be vaccinated first before politicians and other population.

Conclusion

This study shows that the majority (71%) of all healthcare workers would take a Covid-19 vaccine if it was offered for free by the government. Nurses were more likely to decline the vaccine as compared to other healthcare workers. The common reasons cited for declining the vaccine were safety concerns, fear of side effects, insufficient information and lack of trust in the government or the vaccine.

Table 2: Factors associated with Vaccine Acceptability

Parameter	Groups compared	Vaccine acceptability	P value
Doctor	Yes (n=330)	76%	0.01
	No (n=643)	68%	
Nurse	Yes (n=252)	64%	0.007
	No (n=721)	73%	
Gender	Male (n=460)	77%	<0.0001
	Female (n=513)	66%	
Works at a Covid-19 Treatment Centre or Testing Lab	Yes (n=201)	62%	0.002
	No (n=763)	73%	
County of work	Nairobi County (n=272)	70%	0.78
	Others (n=674)	71%	
Perceived risk of Infection	High (n=847)	71%	0.8
	Low (n=110)	70%	
Lives alone	Yes (n=135)	77%	0.08
	No (832)	70%	
Previous infection with Covid-19	Yes (n=56)	73%	0.7
	No (n=918)	71%	

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