

Supplementary file S1: Questionnaire (English), community perceptions, concerns, and acceptability of COVID-19 vaccine in Tanzania

Dear Sir/Madam,

My name is, a researcher from Kilimanjaro Christian Medical University College (KCMUCo).

You are hereby invited to participate in a study conducted by researchers from Kilimanjaro Christian Medical University College (KCMUCo), Muhimbili University of Health and Allied Sciences (MUHAS), St Francis University College of Health and Allied Sciences (SFUCHAS), and the National Institute for Medical Research (NIMR). The study aims to assess the knowledge, perceptions, COVID-19 vaccine acceptability, and associated factors among people in the communities in Tanzania". Understanding community perspectives and views on COVID-19 vaccine is key in shaping how the health providers will inform and educate the general public on covid-19 vaccines and which worry/ fears to address in a scientific manner. The MOHCDGEC would therefore like to capture early community perception and views in-order to offer targeted information where required and/or address common beliefs or myths.

The study follows strict guidelines for quality control, privacy and confidentiality. Your participation in this study will take approximately 20 minutes of your time and all information will be kept strictly confidential by the research team. No personal identifiers (such as your name, telephone number, or address) will be collected and your responses to the questionnaire will be anonymous. The information collected here (without any personal identifiers) will be put together into a technical report to assess knowledge and perceptions and identify barriers to COVID-19 vaccination in the country. Your participation is voluntary and please proceed if consented to participate in this study.

Do you agree to participate? Yes [☐] No [☐]

I: Demographic and general Information of participants

Question	Response
1. Region	<i>Put all 8 regions</i>
2. District	<i>Auto populated as per the region</i>
1. Ward name	
2. Do you reside in an urban or rural area?	1. Urban 2. Rural
3. Date/ month and year of birth?	Date of birth (dd/mm/yyyy)
4. What is your age in complete years	Age in complete years.....
5. Sex	1. Male 2. Female
8. Highest level of education attained? completed?	Circle one 1. No formal education 2. Primary 3. Secondary (O-level) 4. Secondary (A-level) 5. Diploma 6. University 7. Others (specify.....)
9. What is your occupation that make your daily earning?	1. Farming 2. Teaching 3. Business 4. Small scale business 5. Crafts or trade work 6. Services 7. Health work 8. Student 9. Not employed 10. Others (specify.....)
10. Marital status	1. Married 2. Cohabiting 3. Single 4. Separated/divorced 5. Widow
11. What is your religion?	1. Muslim 2. Christian 3. No religion 4. Others (specify.....)
12. Do you have health insurance?	0. No 1. Yes

II: Household socio-economic status

13. Does this household own any livestock, herds, other farm animals, or poultry?	0.No 1.Yes →13	
14. How many of the following animals does this household own? IF NONE, RECORD '00'. IF 95 OR MORE, RECORD '95'. IF UNKNOWN, RECORD '98'.		
a. Milk cows or bulls? b. Other cattle? c. Horses, donkeys, or mules? d. Goats? e. Sheep? f. Chickens or other poultry?milk cows or bullsother cattlehorses, donkeys, or mulesgoatssheepchicken or other poultry	
15. Does any member of this household own any agricultural land?	0.No 1.Yes →16	
16. How many hectares of agricultural land do members of this household own? IF 95 OR MORE, SELECT '950'. IF DON'T KNOW, SELECT '998' hectares	
17. What kind of toilet facility do members of your household usually use?	1. Flush to piped sewage or septic tank 2. Pour flush latrine 3. Pit latrine (cement floor) 4. Pit latrine (mud floor) 5. No toilet	
18. Where do you get your water?	1. Tap water (piped through house or at yard) 2. Public standpipe 3. Protected tube well or bore hole 4. Spring 5. Rainwater (cistern or inter tank) 6. Pond-water or stream 7. Other specify.....	
19. Where is cooking usually done?	1. In a room used for living or sleeping 2. In a separate room used as kitchen 3. In a separate building used as kitchen 4. Outdoors	
20. Does your household have:	Yes	No
a. Electricity that is connected?		
b. A radio in working condition?		
c. A television in working condition?		
d. A computer in working conditions?		
e. A refrigerator in working condition?		

f. A battery or Generator for power?		
g. An iron (charcoal or electricity)		
21. Does any member of this household own:	Yes	No
a. A watch		
b. A mobile phone		
c. A bicycle		
d. A motorcycle or motor scooter?		
e. An animal-drawn cart?		
f. A car or truck		
g. A boat with a motor?		
22. OBSERVE: Type of floor	Yes	No
a. Hard Floor (tile, cement, concrete, brick, wood)		
b. Earth/sand		
c. Dung		
d. Other, specify		
23. OBSERVE: Type of Wall	Yes	No
a. Cement, brick, or stone		
b. Grass		
c. Cane, palm, trunks, bamboo		
d. Mud, poles with mud		
e. Thatched/ grass		
f. Metal sheet		
g. Plastic sheet		
h. Others, specify		
24. OBSERVE: Type of roof	Yes	No
a. Grass/thatch/palm leaf/mud		
b. Rustic mat		
c. Palm/bamboo		
d. Wood planks		
e. Iron sheet		
f. Concrete		
g. Tiles		
h. Others, specify		
25. Do you own a bank account?		

III: Awareness and knowledge on covid-19 disease

25. Do you think COVID-19 exists in Tanzania?	0. No 1. Yes 2. I do not know
26. How do you perceive your risk for getting COVID-19 infection?	1. Not at all 2. Very low risk 3. Low risk 4. Medium risk 5. High risk

	6. Very high risk 7. I do not know
27. Have you ever been infected with COVID-19?	0. No → to Q 29 1. Yes 2. I don't know → to Q 29
28. If Yes, how did you came into conclusion that you were infected?	1. I was tested and received positive results 2. Told by doctor from the symptoms 3. I had symptoms and concluded I had covid 4. I came in contact with a person infected with covid 19 and I got similar symptoms 5. I was told by a relative/ neighbor due to my symptoms 6. I attended burial 7. Others (please mention.....)
29. Has any of your family member (s) been infected with COVID-19?	0. No 1. Yes
30. Has any of your family members died from COVID-19?	0. No 1. Yes
31. Has any of your close friend(s) died from COVID-19?	0. No 1. Yes

IV: Awareness and knowledge on covid-19 vaccines

32. Have you heard about COVID-19 vaccine?	0. No 1. Yes 2. I don't know
33. Which vaccines have you heard about? mention them	<i>Interviewer do not read response select/tick all mentioned</i> 1. Johnson and Johnson's (Jansen) 2. Sinopharm 3. Sinovac 4. Moderna 5. Pfizer-BioNTech 6. AstraZeneca/ Covishield 7. Sputnik V 8. Novavax 9. Others (specify.....)
34. What is the recommended age to give COVID-19 vaccine in Tanzania?age If don't know enter 999
35. Who has been prioritized to receive vaccination in Tanzania?	<i>Circle/Tick all mentioned</i> 1. Anybody aged 18 years and above 2. Health care providers 3. Older people (50 and above)

	4. People with comorbidities (DM, hypertension, CVD, asthma, chronic respiratory disease) 4. Others (specify.....)		
36. Regarding COVID-19 vaccine			
a. Can a person get infected by vaccination?	0. No	1. Yes	2. I don't know
b. Can vaccinated person get infected with Covid-19?	0. No	1. Yes	2. I don't know
c. COVID-19 vaccine can be given to people who had been infected/ sick with COVID-19?	0. No	1. Yes	2. I don't know
d. A person who has received COVID-19 vaccine needs to continue following traditional preventive methods (e.g. distancing, handwashing, use of mask)	0. No	1. Yes	2. I don't know
e. COVID-19 vaccines can reduce the risk/ chance of being infected with COVID-19?	0. No	1. Yes	2. I don't know
f. COVID-19 vaccines prevent severe infection?	0. No	1. Yes	2. I don't know
g. COVID-19 vaccines reduce deaths due to COVID-19?	0. No	1. Yes	2. I don't know
37. Who should not be given COVID-19 vaccine?	<i>Interviewer record all responses mentioned spontaneously after reading the question</i>		
A person with history of allergy to other vaccines	0. No	1. Yes	2. Don't know
A person with high fever on the day of vaccination (> 38.5°C)	0. No	1. Yes	2. Don't know
A pregnant woman	0. No	1. Yes	2. Don't know
A person who had been infected with COVID-19 before	0. No	1. Yes	2. Don't know
A person who have COVID-19 symptoms on the day of vaccination	0. No	1. Yes	2. Don't know
Others (specify.....)			

V: Perceptions, views, and practice on Covid-19 vaccines

We will now talk about your perceptions and views on COVID-19 vaccine.

For Q 38, interviewer, please orient the participant the question answers is in Likert scale from strongly agree, agree, neither, disagree or strongly disagree

38. Regarding your perceptions and views on covid-19 vaccines	Strongly agree	Agree	Neither	Disagree	Strongly disagree
a. Covid-19 vaccines work					
b. Covid-19 vaccines are safe for use in humans					
c. Standard vaccines are safer than Covid-19 vaccine					
d. Covid-19 vaccines have passed rigorous quality control for use					
e. In general, benefits of COVID-19 vaccines outweigh the risks.					
f. I am concerned that a shot might not prevent the disease					
g. Shortcuts which are taken to develop and approve vaccines during a pandemic emergency compromise their safety.					
h. I trust that the Ministry of Health has ensured that the vaccines made available in Tanzania are safe.					
i. My concerns about related to side effects (minor/ short term effects) prevents me from taking COVID-19 vaccines.					
j. My concerns about adverse events (big side effects) prevents me from taking COVID-19 vaccines					
k. The government is pushing you into a vaccination decision you do not fully support					
39. Have you taken the Covid-19 vaccine?	1. Have already taken the vaccine →Q 40 2. Will wait for sometimes →Q 42 3. Will not take the vaccine at all →Q 42				
40. If you have taken, what was the month /year taken?	dd/mm/yyyy				
41. If you have taken, which vaccine have you taken and how many times?	Name (s):..... Number of doses.....				
42. If you will delay or not take at all why? (Interviewer circle all that have been mentioned) I. This is a new vaccine (too new)					

2. Not enough time to develop it 3. Concerned/fear of vaccine side effects 4. I think the vaccine is not effective (concerned about efficacy) 5. I think the vaccine is designed to harm us (concerned about safety) 6. My body is naturally strong, I don't need a vaccine to fight COVID-19 7. I already had COVID-19 so I think I am immune to the disease 8. The COVID-19 pandemic is finished in my country, no need for a vaccine now 9. I do not like needles 10. I need more time to make this decision 11. I prefer others to get vaccinated first 12. My partner does not approve that I should get vaccinated 13. My friends/ co-workers do not approve that I should get vaccinated 14. My religious leaders do not approve the vaccine 15. My local (organisational, political, cultural) leaders do not approve the vaccine 16. The vaccine is not available in the facility I work / nearby facility 17. I lack information regarding the vaccine 18. I do not trust pharmaceutical companies 19. I have medical contraindications to the vaccine 20. Prefer to develop natural immunity by getting COVID-19 21. I do not think the vaccine will protect me 22. Free vaccines are not good 23. Others (specify)	
43. If given a chance to select COVID-19 vaccine, which of the following COVID-19 vaccine would you prefer to use?	<i>Interviewers select all that are mentioned</i> 1. Pfizer-BioNTech 2. Moderna 3. Johnson and Johnson's (Jansen) 4. AstraZeneca/ Covishield 5. Sinovac 6. Sinopharm 7. Sputnik V 8. Sputnik Light 9. Novavax 10. Oxford 11. None of the above 12. I don't know the vaccines 13. Others (specify.....)
44. Do you have any concerns or worries regarding the Covid-19 vaccine that are being used now in the country?	0. No 1. Yes 2. Don't know
If Yes, what are your concerns or worriers regarding the COVID-19 vaccines that are being used now in the country?	

45. Are you worried that some people in your community who are delaying or refusing vaccines, are putting you at risk?	0. No 1. Yes 2. I don't know
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VI: Source of information and its influence on COVID-19 uptake

We will now talk about your source of COVID-19 vaccine information and its influence

46. Which source of information on COVID-19 vaccine do you know? Please mention all the sources (<i>Interviewer tick all that will be mentioned</i>)	<i>Interviewer do not read, circle or tick all mentioned</i> 1. Healthcare providers 2. The ministry of health 3. The government 4. Religious leaders 5. Local leaders (clan or cultural) 6. Local leaders (political/ politicians) 7. Family/ friends 8. My partner 9. Media like television, radio, magazines 10. Social media like <i>Instagram, Whatsapp, Twitter, Facebook</i> 11. World Health Organization (WHO) 12. Scientific papers/ reports (articles/ journals etc) 13. Others (specify.....)
47. Which source of information on COVID-19 vaccine do you trust ?	<i>Interviewer do not read, circle or tick all mentioned</i> 1. Healthcare providers 2. The ministry of health 3. The government 4. Religious leaders 5. Local leaders (clan or cultural) 6. Local leaders (political/ politicians) 7. Family/ friends 8. My partner 9. Media like television, radio, magazines 10. Social media like Instagram, Whatsapp, Twitter, Facebook 11. World Health Organization (WHO) 12. Scientific papers/ reports (articles/ journals etc) 13. Others (specify.....)
48. Which source(s) of information on COVID-19 give false/wrong information on COVID-19 vaccines?	<i>Interviewer do not read, circle or tick all mentioned</i> 1. Healthcare providers 2. The ministry of health 3. The government 4. Religious leaders 5. Local leaders (clan or cultural) 6. Local leaders (political/ politicians) 7. Family/ friends

	8. My partner 9. Media like television, radio, magazines 10. Social media like Instagram, Whatsapp, Twitter, Facebook 11. World Health Organization (WHO) 12. Scientific papers/ reports (articles/ journals etc) 13. Others (specify.....)
49. Have reports you heard/read in the media/ on social media made you reconsider or refuse to take Covid-19 vaccine?	0. No 1. Yes
50. Do you think reports that people hear and/or read in the media or social media influenced your friends, relatives or family members to refuse COVID-19 vaccine?	0. No 1. Yes
51. Do you share information related to covid-19 vaccination within your social media network?	0. I do not share 1. I share
52. Covid-19 vaccine has been widely debated in the media/ and in social media platform. In your opinion, do you think this debate is good or bad?	1. Good 2. Bad

VII: Influence of leaders (*community leaders, religious leaders, celebrities*) on COVID-19 vaccine acceptance or hesitancy

53. Do religious leaders in your community support COVID-19 vaccines?	0. No 1. Yes 2. I don't know
54. Do teachers in your community support COVID-19 vaccines?	0. No 1. Yes 2. I don't know
55. Do health workers leaders in your community support COVID-19?	0. No 1. Yes 2. I don't know
56. Do political leaders in your community support COVID-19 vaccines?	0. No 1. Yes 2. I don't know
57. Has your religious leader ever advocated against COVID-19 vaccination?	0. No 1. Yes
58. Has the teachers in your community ever advocated against COVID-19 vaccination?	0. No 1. Yes

59. Has health workers in your community ever advocated against COVID-19 vaccination?	0. No 1. Yes
60. Has political leaders in your community ever advocated against COVID-19 vaccination?	0. No 1. Yes

VIII: Influence of politics/ policies on COVID-19 vaccine acceptance or hesitancy

61. Do you trust that the government Is making decisions in your best interest with respect to what the covid-19 vaccines are provided?	0. No 1. Yes
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IX: Geographical barriers and COVID-19 vaccine uptake

62. Do you know where to get COVID-19 vaccine? Mention where?.....	
63. Does distance to vaccination centers prevents you from getting yourself vaccinated for COVID-19?	0. No 1. Yes
64. Does timing of covid-19 vaccination at vaccination centers prevents you from getting yourself vaccinated for COVID-19?	0. No 1. Yes
65. Does waiting time at the vaccination centers prevents you from getting yourself vaccinated for COVID-19?	0. No 1. Yes
66. Does cost in getting to the vaccination centers prevent you from getting yourself vaccinated for COVID-19?	0. No 1. Yes

WE HAVE COME TO THE END OF INTERVIEW

Interviewers record any important issue that you have observed during the interview that were not captured in the questionnaire
