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2024

Appendix

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This file is a(n) Appendix of:

COVID-19 vaccine coverage, determinants and inequity amongst refugees
and migrants in Pakistan: a cross-sectional study

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Kampalath, Vinay; Hosseinalipour, Seyed-Moeen; Blanchet, Karl [and 1 more]

This publication URL:

<https://archive-ouverte.unige.ch/unige:183620>

Publication DOI:

[10.1136/bmjopen-2023-080954](https://doi.org/10.1136/bmjopen-2023-080954)

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Annex 1: STROBE checklist**STROBE Statement**—Checklist of items that should be included in reports of *cross-sectional studies*

	Item No	Recommendation	Page Number
Title and abstract	1	(a) Indicate the study’s design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4
Objectives	3	State specific objectives, including any prespecified hypotheses	5
Methods			
Study design	4	Present key elements of study design early in the paper	5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants	5,6
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	6, 7
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	6
Bias	9	Describe any efforts to address potential sources of bias	3
Study size	10	Explain how the study size was arrived at	6
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	6, 7
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	NA
		(b) Describe any methods used to examine subgroups and interactions	NA
		(c) Explain how missing data were addressed	6
		(d) If applicable, describe analytical methods taking account of sampling strategy	6
		(e) Describe any sensitivity analyses	NA
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	7, 8 and Supplementary Table 1
		(b) Give reasons for non-participation at each stage	6, 7

		(c) Consider use of a flow diagram	NA
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	6,7,8
		(b) Indicate number of participants with missing data for each variable of interest	NA
Outcome data	15*	Report numbers of outcome events or summary measures	8-12 (quantitative data), Supplementary Tables
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	NA
		(b) Report category boundaries when continuous variables were categorized	
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	NA
Discussion			
Key results	18	Summarise key results with reference to study objectives	12
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	13-14
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	112-14
Generalisability	21	Discuss the generalisability (external validity) of the study results	13
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	3

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.

Annex 2: Study questionnaire- cross-sectional survey

Section I. Respondent's Demographics			
1.- Date of the survey (dd/mm/yy):		2.- Survey code:	
3.- Province/Region/State:	4.- Department:	5.- City:	
6.- Country of origin (to be listed)	7.- Years living in "add country name":	8.- What is your immigration status?	
	1. ___ Less than 1 year 2. ___ Between 1 - 5 years 3. ___ More than 5 years	1. ___ Regular (with valid documents) 2. ___ Irregular (no valid documents, pending, expired) 3. ___ Refugee	
9.- Gender:	10.- Indicate which age group you are in:	11.- Indicate the members of your household (multiple choices)	
1. ___ Male 2. ___ Female 3. ___ Other 4. ___ I'd rather not respond	1. ___ Less than 18 2. ___ 18 - 29 3. ___ 30 - 49 4. ___ 50 - 59 5. ___ 60 or more	1. ___ Spouse 6. ___ Mother-in-law/Father-in-law 2. ___ Daughter/Son 7. ___ Grandfather/Grandmother 3. ___ Mother/Father 8. ___ Grandchildren 4. ___ Sister/Brother 9. ___ Other relative 5. ___ Daughter-in-law/Brother-in-law 10. ___ Non-relative	
12.- You have minors under your responsibility:		13.- Highest grade or level of schooling/formal education completed	
1. ___ Yes, full time 2. ___ Yes, part-time 3. ___ No 4. ___ Don't know/don't remember		1. ___ Formal education not completed 5. ___ Bachelor's degree 2. ___ Primary education 6. ___ Postgraduate degree 3. ___ Secondary education completed 7. ___ None of the above 4. ___ Secondary education not completed 8. ___ I prefer not to say	
Section II. COVID-19 infection			
14.- Do you belong to any of these risk groups for COVID-19?	15.- Are you or have you been infected with COVID-19?	16.- Did you have access to the COVID-19 vaccination before getting infected?	
1. ___ 60 years or older 2. ___ Diabetes 3. ___ Heart disease or high blood pressure 4. ___ Chronic lung diseases 5. ___ Weak immune system (including cancer, HIV) 6. ___ Obesity 7. ___ Do not belong to any risk group	1. ___ Yes (skip to next) 2. ___ No (skip to q20) 3. ___ I don't know (skip to q20)	1. ___ Yes (skip to q18) 2. ___ No (skip to next) 3. ___ I don't know (skip to next)	
17.- What was the reason why you did not get vaccinated?	18.- Was it confirmed by a test?	19.- Were you hospitalized?	20.- Have you taken any of the following measures to avoid the spread of the coronavirus? (multiple choices)
1. ___ The vaccination centre was far away from home 2. ___ I was not in the priority group. 3. ___ I was rejected because I was a foreigner 4. ___ I did not want to get the vaccine 5. ___ Vaccination had not started in the country	1. ___ Yes 2. ___ No 3. ___ I don't know	1. ___ Yes 2. ___ No 3. ___ I don't know	1. ___ Washed hands / used disinfectants more often 2. ___ Generally more careful with washing and cleaning 3. ___ Used protective equipment such as a face mask 4. ___ Kept at least one meter away from other persons 5. ___ Kept away from crowds 6. ___ Canceled, postponed or not participated in physical meetings, birthday parties, weddings, confirmations, dinners, family gatherings, etc. 7. ___ Canceled or postponed travels 8. ___ Used less public transportation 9. ___ Worked from home (had home office) more often than usual 10. ___ No, not done any of the above 11. ___ Other: _____

Section III. Vaccination coverage			
21.- Have you been offered a COVID-19 vaccine?	22.- Do you plan to get vaccinated against COVID-19?	23.- What are the main reasons why you have not taken/will not take/are unsure whether or not the COVID-19 vaccine? (multiple choices) Once you answer this question you will move to question 41	
1. <input type="checkbox"/> Yes (skip to q24) 2. <input type="checkbox"/> No (skip to next) 3. <input type="checkbox"/> I don't know (skip to next)	1. <input type="checkbox"/> Yes (skip to q41) 2. <input type="checkbox"/> No (skip to next) 3. <input type="checkbox"/> I don't know (skip to next)	1. <input type="checkbox"/> I don't need the vaccine: rarely/never sick, I don't belong to the priority group 2. <input type="checkbox"/> Religious reasons 3. <input type="checkbox"/> There is not much COVID-19 infection in the community 4. <input type="checkbox"/> I do not need to protect myself 5. <input type="checkbox"/> I do not need to protect my family/community 6. <input type="checkbox"/> I am afraid of/do not like doctors/syringes 7. <input type="checkbox"/> I want my body to develop natural immunity 8. <input type="checkbox"/> I do not think the COVID-19 vaccines work 9. <input type="checkbox"/> Risk of adverse reactions to COVID-19 vaccines 10. <input type="checkbox"/> Adverse reactions to previous vaccines (others than the COVID-19 vaccine) 11. <input type="checkbox"/> There is too little experience with the use of the vaccine 12. <input type="checkbox"/> I am not comfortable with the new COVID-19 vaccine 13. <input type="checkbox"/> I do not trust the recommendation from the health authorities/municipality 14. <input type="checkbox"/> Information from the media 15. <input type="checkbox"/> Political reasons (antigovernment feelings) 21. Other: _____	
24.- Have you received the full doses of the COVID-19 vaccine?	25.- Indicate how many doses you have received	26.- In which month did you receive the first dose of the COVID-19 vaccine?	27. In which year did you receive the first dose of the COVID-19 vaccine?
1. <input type="checkbox"/> Yes (skip to next) 2. <input type="checkbox"/> Partially (skip to next) 3. <input type="checkbox"/> No (skip to q40) 4. <input type="checkbox"/> I don't know (skip to q40)	1. <input type="checkbox"/> One 2. <input type="checkbox"/> Two 3. <input type="checkbox"/> Three 4. <input type="checkbox"/> Four 5. <input type="checkbox"/> None	1. <input type="checkbox"/> January 9. <input type="checkbox"/> September 2. <input type="checkbox"/> February 10. <input type="checkbox"/> October 3. <input type="checkbox"/> March 11. <input type="checkbox"/> November 4. <input type="checkbox"/> April 12. <input type="checkbox"/> December 5. <input type="checkbox"/> May 13. <input type="checkbox"/> Unvaccinated 6. <input type="checkbox"/> June (skip to q41) 7. <input type="checkbox"/> July 14. <input type="checkbox"/> Don't remember 8. <input type="checkbox"/> August	1. <input type="checkbox"/> 2020 2. <input type="checkbox"/> 2021 3. <input type="checkbox"/> 2022
28.- Which vaccine brand did you get in the first dose?	29.- In which country did you get the 1st dose?	30.- In which month did you receive the second dose of the COVID-19 vaccine?	31.- In which year did you receive the second dose of the COVID-19 vaccine?
1. <input type="checkbox"/> AstraZeneca (skip to next) 2. <input type="checkbox"/> Pfizer (skip to next) 3. <input type="checkbox"/> CanSino (skip to q34) 4. <input type="checkbox"/> Sinovac (skip to next) 5. <input type="checkbox"/> Other (skip to next) 6. <input type="checkbox"/> Don't know/don't remember (skip to next) 7. <input type="checkbox"/> Covaxin (skip to next) 8. <input type="checkbox"/> Sinopharm (skip to next) 9. <input type="checkbox"/> Sputnik V (skip to next) 10. <input type="checkbox"/> Johnson & Johnson (skip to q34) 11. <input type="checkbox"/> Moderna (skip to next)		1. <input type="checkbox"/> January 9. <input type="checkbox"/> September 2. <input type="checkbox"/> February 10. <input type="checkbox"/> October 3. <input type="checkbox"/> March 11. <input type="checkbox"/> November 4. <input type="checkbox"/> April 12. <input type="checkbox"/> December 5. <input type="checkbox"/> May 13. <input type="checkbox"/> Unvaccinated 6. <input type="checkbox"/> June (skip to q41) 7. <input type="checkbox"/> July 14. <input type="checkbox"/> Don't remember 8. <input type="checkbox"/> August	1. <input type="checkbox"/> 2020 2. <input type="checkbox"/> 2021 3. <input type="checkbox"/> 2022
32.- Which vaccine brand did you get in the second dose?	33.- In which country did you get the 2nd dose?	34.- In which month did you receive the booster dose?	35.- In which year did you receive the BOOSTER of the COVID-19 vaccine?
1. <input type="checkbox"/> AstraZeneca (skip to next) 2. <input type="checkbox"/> Pfizer (skip to next) 3. <input type="checkbox"/> CanSino (skip to q34) 4. <input type="checkbox"/> Sinovac (skip to next) 5. <input type="checkbox"/> Other (skip to next) 6. <input type="checkbox"/> Don't know/don't remember (skip to next) 7. <input type="checkbox"/> Covaxin (skip to next) 8. <input type="checkbox"/> Sinopharm (skip to next) 9. <input type="checkbox"/> Sputnik V (skip to next) 10. <input type="checkbox"/> Johnson & Johnson (skip to q34) 11. <input type="checkbox"/> Moderna (skip to next)		1. <input type="checkbox"/> January 9. <input type="checkbox"/> September 2. <input type="checkbox"/> February 10. <input type="checkbox"/> October 3. <input type="checkbox"/> March 11. <input type="checkbox"/> November 4. <input type="checkbox"/> April 12. <input type="checkbox"/> December 5. <input type="checkbox"/> May 13. <input type="checkbox"/> Unvaccinated 6. <input type="checkbox"/> June (skip to q41) 7. <input type="checkbox"/> July 14. <input type="checkbox"/> Don't remember 8. <input type="checkbox"/> August	1. <input type="checkbox"/> 2020 2. <input type="checkbox"/> 2021 3. <input type="checkbox"/> 2022
36.- Which vaccine brand did you get as a booster?	37.- In which country did you get the booster dose?	Comments:	
1. <input type="checkbox"/> AstraZeneca (skip to next) 2. <input type="checkbox"/> Pfizer (skip to next)			

3. ___ CanSino (skip to q34) 4. ___ Sinovac (skip to next) 5. ___ Other (skip to next) 6. ___ Don't know/don't remember (skip to next) 7. ___ Covaxin (skip to next) 8. ___ Sinopharm (skip to next) 9. ___ Sputnik V (skip to next) 10. ___ Johnson & Johnson (skip to q34) 11. ___ Moderna (skip to next)		
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Section IV. Thinking and feeling (perceived risk, trust), Social process (social norms), motivations and barriers		
38.- Did you experience any side effect after vaccination?	39.- Type of side effects experienced (multiple choices)	
1. ___ Yes (skip to next) 2. ___ No (skip to 40) 2. ___ I don't know (skip to 40)	1. ___ Fever 2. ___ Headache 3. ___ Muscle pain 4. ___ Pain at the injection site 5. ___ Fatigue 6. ___ Chills 7. ___ Diarrhea 8. ___ Other: _____	
40.- Indicate the reason why you get vaccinated/will get vaccinated (multiple choices)		
Reasons:	Indicate the degree of agreement or disagreement with these statements	
1. ___ The vaccine is highly reliable 2. ___ The vaccine is a government requirement 3. ___ The vaccine protects my family, friends and community 4. ___ The vaccine is a requirement to enter establishments 5. ___ Getting vaccinated is my duty 6. ___ I get vaccinated because it's safe 7. ___ I would not like to get vaccinated, but I get vaccinated because I am forced	___ Strongly agree ___ Agree ___ Neither agree nor disagree ___ Disagree ___ Strongly disagree ___ Strongly agree ___ Agree ___ Neither agree nor disagree ___ Disagree ___ Strongly disagree ___ Strongly agree ___ Agree ___ Neither agree nor disagree ___ Disagree ___ Strongly disagree ___ Strongly agree ___ Agree ___ Neither agree nor disagree ___ Disagree ___ Strongly disagree ___ Strongly agree ___ Agree ___ Neither agree nor disagree ___ Disagree ___ Strongly disagree ___ Strongly agree ___ Agree ___ Neither agree nor disagree ___ Disagree ___ Strongly disagree	
41.- How concerned are you that a COVID-19 vaccine could cause you to have a serious reaction?	42.- How much do you want to get a COVID-19 vaccine?	43.- Where would you prefer or have preferred to get a COVID-19 vaccine? (multiple choices)

1. ___ Not at all concerned 2. ___ A little concerned 3. ___ Moderately concerned 4. ___ Very concerned	1. ___ Not at all 2. ___ A little 3. ___ Moderately 4. ___ Very much	1. ___ Hospital 2. ___ Health Center/Clinic 3. ___ Workplace 4. ___ Pharmacy 5. ___ Community center, meeting room, local store 6. ___ University 7. ___ Shopping Center 8. ___ School near the place of residence 9. ___ I don't want to get vaccinated 10. ___ Somewhere else, please specify: _____
44.- In your family, who will have the final say about whether you get or not a COVID-19 vaccine?	45.- Do you think most of your family and close friends would want you to get a COVID-19 vaccine?	46.- How much do you trust the healthcare providers who would give you a COVID-19 vaccine?
1. ___ Me 2. ___ My spouse/partner 3. ___ My mother 4. ___ My father 5. ___ Mother-in-law 7. ___ My child 9. ___ Someone else, please specify: _____	1. ___ Yes 2. ___ No 3. ___ I don't know	1. ___ Not at all 2. ___ A little 3. ___ Moderately 4. ___ Very much
47.- What do you think are the main difficulties for the population to NOT get the COVID-19 vaccine? (Multiple choices)		
1. ___ Nothing. It is not difficult 2. ___ The COVID-19 vaccine is not available for a given group 3. ___ Vaccination costs too much 4. ___ They can't go on their own (they have physical limitation) 5. ___ The vaccination site is too far away 6. ___ Opening hours are inconvenient 7. ___ People are turned away without vaccination 8. ___ The waiting time is too long 9. ___ It is difficult to register for vaccination 10. ___ They do not have the internet or a smartphone to register for vaccination 11. ___ Something else, please specify: _____		

Section V— Vaccination campaigns		
48.- What is your main source of information about the COVID-19 vaccination process? (Multiple choices) 1. ___ Local newspapers, radio and/or television channels 2. ___ Foreign newspapers, radio and/or television channels 3. ___ Local authorities statements 4. ___ Local government websites 5. ___ Brochures 6. ___ Social media 7. ___ Family and/or social network in your home country 8. ___ Family and/or social network in the country you are currently living 9. ___ Camp staff 10. ___ At your workplace 11. ___ Internet and/or social networks 12. ___ NGO's 13. ___ I have not received information about COVID-19 vaccination 14. ___ Other: _____		49.- Do you know how many types of vaccines (brands) are available for COVID-19? 1. ___ Yes 2. ___ No 3. ___ I'm not sure
50.- Do you know where to go to get vaccinated against COVID-19? 1. ___ Yes (skip to next) 2. ___ No (skip to q52) 3. ___ I'm not sure (skip to q52)	51.- Indicate the places, (Multiple choices) 1. ___ Hospital 2. ___ Health Center/Clinic 3. ___ Workplace 4. ___ Pharmacy 5. ___ Community center, meeting room, or local store 6. ___ University 7. ___ Shopping Center 8. ___ School near the place of residence 10. ___ Somewhere else, please specify: _____	52.- Have you observed/heard any comment about the COVID-19 vaccination for refugees/migrants? 1. ___ Yes (skip to next) 2. ___ No (skip to q54) 3. ___ I'm not sure (skip to q54)
53.- If yes, what did you see/hear? 1. ___ They request documentation to administer the dose 2. ___ That only national people have access 3. ___ That they are going to deport people without documentation 4. ___ Don't know/don't remember 5. ___ Other (specify): _____	54.- Who do you think has financed the vaccination process in the country? (multiple choices) 1. ___ Government 2. ___ Private company 3. ___ NGOs 4. ___ I don't know 5. ___ Other	55.- Did you make any payment or contribution to be vaccinated against COVID-19? (multiple choices) 1. ___ Yes, I paid to get an appointment 2. ___ Yes, I bought the syringes 3. ___ Yes, I paid to get a vaccination certificate 4. ___ No, it was totally free of charge 5. ___ Other (specify) 6. ___ I have not been vaccinated (skip to q62)
56.- Once vaccinated you received a vaccination card or information on where to find your vaccination card 1. ___ Yes 2. ___ No 3. ___ Don't know/don't remember	57.- Do you have a vaccination card or certificate? 1. ___ Yes (skip to next) 2. ___ No (skip to q60) 3. ___ I don't know (skip to q60)	58.- Where did you obtain the vaccination card or certificate? 1. ___ At the vaccination center 2. ___ I downloaded it from the internet 3. ___ At a different health facility 4. ___ Other: _____
59.- Did you have any problems acquiring the vaccination card or certificate? 1. ___ Yes, the system showed an error 2. ___ Yes, my data was not correct 3. ___ No 4. ___ Other (specify): _____	60.- Have you ever been denied access to vaccination because you did not have an identity document? 1. ___ Yes (skip to next) 2. ___ No (skip to q62) 3. ___ Don't know/don't remember (skip to q62)	61.- In case you did not have your ID card at the time of vaccination, a special code was generated for you 1. ___ Yes 2. ___ No 3. ___ I was not allowed to get vaccinated 4. ___ Not applicable
62.- Do you think the vaccination plan implemented by your country was more accessible to people in mobility compared to other neighboring countries? 1. ___ Yes 2. ___ No 3. ___ I don't know/ I don't remember 4. ___ I do not know how it was in another country	63.- Did you witness any kind of discrimination during the vaccination process? (multiple choices) 1. ___ Yes, to myself (skip to next) 2. ___ Yes, to a migrant person (skip to next) 3. ___ Yes, to the general public (skip to next) 4. ___ I do not witness any act of discrimination (skip to q65)	64.- If you witnessed any act of discrimination, who was it from? (multiple choices) 1. ___ Security personnel 2. ___ Health center staff 3. ___ Local population 4. ___ Other (specify): _____
65.- What are the main facilitators you have identified in the COVID-19 vaccination process in your country? (Multiple choices)	66.- Did you perceive any differences in the way you were treated for vaccinations compared to the majority population?	67.- Do you think that the national government's campaign to raise awareness of the benefits of the vaccine has been successful in getting migrants to go to vaccination centres?

1. <input type="checkbox"/> Timely information has been provided 2. <input type="checkbox"/> Vaccination centers have been set up in different areas of the city 3. <input type="checkbox"/> I do not know 4. <input type="checkbox"/> None	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> Don't know/don't remember	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> Don't know/don't remember
68.- Do you consider that the health centres set up at the national level are accessible in your community?	69.- How much time do you have to travel to the nearest vaccination centre from your home?	70.- Do you consider that the vaccination centres are hygienic for people to go to be vaccinated
1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> Don't know/don't remember	1. <input type="checkbox"/> Less than 15 min 2. <input type="checkbox"/> Between 30 min to 1 hour 3. <input type="checkbox"/> Between 1 to 2 hours 4. <input type="checkbox"/> More than 2 hours 5. <input type="checkbox"/> Outside my province	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> Don't know/don't remember
71.- Do you think that the national government provides adequate information on the percentage of vaccinated people per region?	72.- Do you consider that there has been a clear, precise and transparent communication from the national and local government on the situation of COVID 19?	
1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> Don't know/don't remember	1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> Don't know/don't remember	

Annex 3: Ethical Approval

22-May-2022

Dr. Jai Das
Department of Paediatrics and Child Health Aga
Khan University
Karachi

Dear Dr. Jai Das,

2022-7336-21669. Jai Das: Deployment of COVID-19 Vaccines for Refugees and Migrants: Protocol for a Mixed-Method Thank
you for submitting your application for ethical approval regarding the above mentioned study.

Your study was reviewed and discussed in ERC meeting. There were no major ethical issues. The study was given an approval for a period of one year with effect from 22-May-2022. For further extension a request must be submitted along with the annual report.

Any changes in the protocol or extension in the period of study should be notified to the Committee for prior approval. All informed consents should be retained for future reference.

Please ensure that all the national and institutional requirements are met. Thank

you.

Sincerely,

Dr Fyezah Jehan Chairperson
Ethics Review Committee

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**National Institutes of Health
Health Research Institute
National Bioethics Committee (NBC)**



Ref: No.4-87/COVID-107/22/73

Date: July 22, 2022

Dr Jai K. Das
Department of Paediatrics & Child Health
Aga Khan University, Stadium road
Karachi

Subject: **Deployment of COVID-19 Vaccines for Refugees and Migrants: Protocol for a Mixed-Method (COVID-107)**

Dear Dr. Jai K. Das

I am pleased to inform you that the above mentioned project has been approved by the "Research Ethics Committee" of "National Bioethics Committee" **for a period of Six months.**

For the continuation of project in the next term, you have to send a progress report and a formal request for continuation of project (however, you do not need to submit REC application or pay any processing fee again).

Kindly keep the National Bioethics Committee, Secretariat updated about the progress of the project on monthly basis. In case of any amendments in the original protocol or any adverse events immediate information along with steps taken for the participants of research needs to be submitted to the Secretariat.

You are requested to kindly submit the formal final report upon the completion of project.

Yours sincerely,

(Prof. Dr. Saima Perwaiz Iqbal)
Chairperson
NBC-Research Ethics Committee

Health Research Institute, Shahrah-e-Jamhuriat, Off Constitution Avenue, Sector G-5/2, Islamabad
Website: www.nbcpakistan.org.pk, e-mail: nbcpakistan@nih.org.pk Tel: 92-51-9224325, 9216793, Fax 9216774.

Annex 4: Tables

Supplementary Table 1: Summary of participants

Age Group	Afghan Community at Hyderabad		Bengali Community at Karachi		Afghan Community at Quetta		Grand Total		
	Female	Male	Female	Male	Female	Male	Female	Male	Total
< 18 years of children	6	4	5	5	24	27	35	36	71
18-49 years	25	25	30	27	54	39	109	91	200
50-59 years	25	25	20	23	26	22	71	70	141
60 & above years	26	25	26	27	27	27	79	79	158
Grand Total	82	79	81	82	131	115	294	276	570

Supplementary Table 2: Risk factors of COVID-19 and its preventive measures

	Overall	Province		Immigration Status		
		Sindh	Balochistan	Regular Migrant	Irregular Migrant	Refugee
	(N=570)	(N=324)	(N=246)	(N=370)	(N=131)	(N=69)
Participants at risk of COVID-19						
60 years or older	124 (21.8%)	86 (26.5%)	38 (15.4%)	84 (22.7%)	30 (22.9%)	10 (14.5%)
Heart disease or high blood pressure	54 (9.47%)	15 (4.63%)	39 (15.9%)	43 (11.6%)	7 (5.34%)	4 (5.80%)
Diabetes	19 (3.33%)	14 (4.32%)	5 (2.03%)	13 (3.51%)	4 (3.05%)	2 (2.90%)
Chronic lung diseases	8 (1.40%)	2 (0.617%)	6 (2.44%)	4 (1.08%)	3 (2.29%)	1 (1.45%)
Obesity	8 (1.40%)	5 (1.54%)	3 (1.22%)	7 (1.89%)	0 (0%)	1 (1.45%)
Weak immune system (including cancer, HIV)	6 (1.05%)	6 (1.85%)	0 (0%)	4 (1.08%)	2 (1.53%)	0 (0%)
Do not belong to any risk group	351 (61.6%)	196 (60.5%)	155 (63.0%)	215 (58.1%)	85 (64.9%)	51 (73.9%)
Measures taken to avoid the spread of the coronavirus						
Washed hands / used disinfectants more often	383 (70.4%)	215 (68.0%)	168 (73.7%)	261 (74.4%)	80 (63.0%)	42 (63.6%)
Careful with washing and cleaning of dishes and clothes	307 (56.4%)	162 (51.3%)	145 (63.6%)	207 (59.0%)	70 (55.1%)	30 (45.5%)
Used face mask	209 (38.4%)	116 (36.7%)	93 (40.8%)	118 (33.6%)	68 (53.5%)	23 (34.8%)
Social distancing	139 (25.6%)	77 (24.4%)	62 (27.2%)	81 (23.1%)	44 (34.6%)	14 (21.2%)
Kept away from crowds	137 (25.2%)	59 (18.7%)	78 (34.2%)	97 (27.6%)	27 (21.3%)	13 (19.7%)
Avoided public gatherings	117 (21.5%)	102 (32.3%)	15 (6.58%)	76 (21.7%)	30 (23.6%)	11 (16.7%)
Canceled or postponed travels	56 (10.3%)	34 (10.8%)	22 (9.65%)	36 (10.3%)	11 (8.66%)	9 (13.6%)
Used less public transportation	49 (9.01%)	23 (7.28%)	26 (11.4%)	28 (7.98%)	14 (11.0%)	7 (10.6%)
Worked from home (had home office) more often than usual	35 (6.43%)	16 (5.06%)	19 (8.33%)	22 (6.27%)	10 (7.87%)	3 (4.55%)
No measures taken	20 (3.68%)	3 (0.949%)	17 (7.46%)	13 (3.70%)	1 (0.787%)	6 (9.09%)

Supplementary Table 3: COVID-19 knowledge and source of information among refugees and migrants

	Overall	Province		Immigration status		
		Sindh	Balochistan	Regular Migrant	Irregular Migrant	Refugee
	(N=570)	(N=324)	(N=246)	(N=370)	(N=131)	(N=69)
Know about types of vaccines (brands) available for COVID-19						
Yes	115 (20.2%)	89 (27.5%)	26 (10.6%)	77 (20.8%)	30 (22.9%)	8 (11.6%)
No	324 (56.8%)	230 (71.0%)	94 (38.2%)	191 (51.6%)	92 (70.2%)	41 (59.4%)
Not Sure	131 (23.0%)	5 (1.54%)	126 (51.2%)	102 (27.6%)	9 (6.87%)	20 (29.0%)
Know about place of getting COVID-19 vaccination						
Yes	323 (56.7%)	239 (73.8%)	84 (34.1%)	201 (54.3%)	94 (71.8%)	28 (40.6%)
No	136 (23.9%)	67 (20.7%)	69 (28.0%)	91 (24.6%)	24 (18.3%)	21 (30.4%)
Not Sure	111 (19.5%)	18 (5.56%)	93 (37.8%)	78 (21.1%)	13 (9.92%)	20 (29.0%)
Main source of information about the COVID-19 vaccination process						
Local newspapers, radio and/or television channels	334 (58.6%)	231 (71.3%)	103 (41.9%)	203 (54.9%)	98 (74.8%)	33 (47.8%)
Foreign newspapers, radio and/or television channels	164 (28.8%)	111 (34.3%)	53 (21.5%)	91 (24.6%)	46 (35.1%)	27 (39.1%)
Family and/or social network in your home country	139 (24.4%)	51 (15.7%)	88 (35.8%)	103 (27.8%)	23 (17.6%)	13 (18.8%)
Social media	101 (17.7%)	42 (13.0%)	59 (24.0%)	74 (20.0%)	11 (8.40%)	16 (23.2%)
Family and/or social network in the country you are currently living	88 (15.4%)	66 (20.4%)	22 (8.94%)	67 (18.1%)	14 (10.7%)	7 (10.1%)
Local authorities' statements	83 (14.6%)	45 (13.9%)	38 (15.4%)	44 (11.9%)	25 (19.1%)	14 (20.3%)
Camp staff	82 (14.4%)	34 (10.5%)	48 (19.5%)	61 (16.5%)	12 (9.16%)	9 (13.0%)
At your workplace	62 (10.9%)	16 (4.94%)	46 (18.7%)	41 (11.1%)	11 (8.40%)	10 (14.5%)
Brochures	49 (8.60%)	35 (10.8%)	14 (5.69%)	31 (8.38%)	14 (10.7%)	4 (5.80%)
Local government websites	43 (7.54%)	38 (11.7%)	5 (2.03%)	27 (7.30%)	13 (9.92%)	3 (4.35%)
Internet and/or social networks	21 (3.68%)	14 (4.32%)	7 (2.85%)	15 (4.05%)	5 (3.82%)	1 (1.45%)
NGO's	19 (3.33%)	6 (1.85%)	13 (5.28%)	16 (4.32%)	2 (1.53%)	1 (1.45%)
No Information received	6 (1.05%)	1 (0.309%)	5 (2.03%)	4 (1.08%)	0 (0%)	0 (0%)
School Teacher	4 (0.702%)	0 (0%)	4 (1.63%)	1 (0.270%)	2 (1.53%)	1 (1.45%)
Others	4 (0.702%)	1 (0.309%)	3 (1.22%)	203 (54.9%)	98 (74.8%)	33 (47.8%)

Supplementary Table 4: COVID-19 willingness, empowerment, and trust among refugees and migrants

	Overall	Province		P-value	Immigration status			P-value
		Sindh	Balochistan		Regular Migrant	Irregular Migrant	Refugee	
	(N=570)	(N=324)	(N=246)		(N=370)	(N=131)	(N=69)	
Concerned about COVID-19 vaccine serious side effects								
Very concerned	270 (47.4%)	164 (50.6%)	106 (43.1%)	<0.001	183 (49.5%)	57 (43.5%)	30 (43.5%)	0.097
Moderately concerned	135 (23.7%)	106 (32.7%)	29 (11.8%)		86 (23.2%)	38 (29.0%)	11 (15.9%)	
A little concerned	96 (16.8%)	27 (8.33%)	69 (28.0%)		60 (16.2%)	23 (17.6%)	13 (18.8%)	
Not at all concerned	69 (12.1%)	27 (8.33%)	42 (17.1%)		41 (11.1%)	13 (9.92%)	15 (21.7%)	
Willingness to get a COVID-19 vaccine								
Very much	53 (9.30%)	39 (12.0%)	14 (5.69%)	0.0166	29 (7.84%)	21 (16.0%)	3 (4.35%)	0.0142
Moderately	131 (23.0%)	68 (21.0%)	63 (25.6%)		80 (21.6%)	33 (25.2%)	18 (26.1%)	
A little	318 (55.8%)	185 (57.1%)	133 (54.1%)		222 (60.0%)	58 (44.3%)	38 (55.1%)	
Not at all	68 (11.9%)	32 (9.88%)	36 (14.6%)		39 (10.5%)	19 (14.5%)	10 (14.5%)	
Preferred Location of getting COVID-19 vaccine								
Hospital	424 (74.4%)	280 (86.4%)	144 (58.5%)	NA	271 (73.2%)	104 (79.4%)	49 (71.0%)	NA
Health Center/Clinic	132 (23.2%)	72 (22.2%)	60 (24.4%)		91 (24.6%)	22 (16.8%)	19 (27.5%)	
Workplace	28 (4.91%)	3 (0.926%)	25 (10.2%)		15 (4.05%)	3 (2.29%)	10 (14.5%)	
Pharmacy	7 (1.23%)	1 (0.309%)	6 (2.44%)		5 (1.35%)	1 (0.763%)	1 (1.45%)	
Community center, meeting room, local store	16 (2.81%)	2 (0.617%)	14 (5.69%)		12 (3.24%)	2 (1.53%)	2 (2.90%)	
University	1 (0.175%)	0 (0%)	1 (0.407%)		0 (0%)	1 (0.763%)	0 (0%)	
Shopping Center	4 (0.702%)	1 (0.309%)	3 (1.22%)		1 (0.270%)	2 (1.53%)	1 (1.45%)	
School near the place of residence	71 (12.5%)	25 (7.72%)	46 (18.7%)		35 (9.46%)	19 (14.5%)	17 (24.6%)	
Residential Area	30 (5.26%)	9 (2.78%)	21 (8.54%)		24 (6.49%)	4 (3.05%)	2 (2.90%)	
Don't want to get vaccinated	36 (6.32%)	8 (2.47%)	28 (11.4%)		28 (7.57%)	3 (2.29%)	5 (7.25%)	
Other	1 (0.175%)	0 (0%)	1 (0.407%)		1 (0.270%)	0 (0%)	0 (0%)	
Decision maker on COVID-19 vaccine (from family)								
Participant, itself	359 (63.0%)	233 (71.9%)	126 (51.2%)	<0.001	235 (63.5%)	85 (64.9%)	39 (56.5%)	<0.001
Spouse/partner	79 (13.9%)	42 (13.0%)	37 (15.0%)		60 (16.2%)	16 (12.2%)	3 (4.35%)	
Father	66 (11.6%)	19 (5.86%)	47 (19.1%)		31 (8.38%)	15 (11.5%)	20 (29.0%)	
Mother	31 (5.44%)	4 (1.23%)	27 (11.0%)		22 (5.95%)	5 (3.82%)	4 (5.80%)	
His/her child	30 (5.26%)	23 (7.10%)	7 (2.85%)		20 (5.41%)	9 (6.87%)	1 (1.45%)	
Someone else	5 (0.877%)	3 (0.926%)	2 (0.813%)		2 (0.541%)	1 (0.763%)	2 (2.90%)	
Family and close friends willing to get a COVID-19 vaccine								
Yes	303 (53.2%)	228 (70.4%)	75 (30.5%)	<0.001	189 (51.1%)	78 (59.5%)	36 (52.2%)	<0.001
No	104 (18.2%)	52 (16.0%)	52 (21.1%)		54 (14.6%)	35 (26.7%)	15 (21.7%)	
Don't Know	163 (28.6%)	44 (13.6%)	119 (48.4%)		127 (34.3%)	18 (13.7%)	18 (26.1%)	
Trust on healthcare providers giving COVID-19 vaccine								
Very much	68 (11.9%)	55 (17.0%)	13 (5.28%)	<0.001	47 (12.7%)	15 (11.5%)	6 (8.70%)	0.406
Moderately	107 (18.8%)	30 (9.26%)	77 (31.3%)		62 (16.8%)	25 (19.1%)	20 (29.0%)	
A little	294 (51.6%)	164 (50.6%)	130 (52.8%)		195 (52.7%)	68 (51.9%)	31 (44.9%)	
Not at all	101 (17.7%)	75 (23.1%)	26 (10.6%)		66 (17.8%)	23 (17.6%)	12 (17.4%)	

Supplementary Table 5: COVID-19 vaccine funding for among refugees and migrants

	Overall	Province		Immigration status		
		Sindh	Balochistan	Regular Migrant	Irregular Migrant	Refugee
	(N=570)	(N=324)	(N=246)	(N=370)	(N=131)	(N=69)
Funder of vaccination process in the country						
Government	391 (68.6%)	303 (93.5%)	88 (35.8%)	240 (64.9%)	113 (86.3%)	38 (55.1%)
NGOs	25 (4.39%)	3 (0.926%)	22 (8.94%)	15 (4.05%)	3 (2.29%)	7 (10.1%)
Private company	6 (1.05%)	4 (1.23%)	2 (0.813%)	4 (1.08%)	1 (0.763%)	1 (1.45%)
Other	1 (0.175%)	0 (0%)	1 (0.407%)	0 (0%)	0 (0%)	1 (1.45%)
Don't know	158 (27.7%)	16 (4.94%)	142 (57.7%)	119 (32.2%)	15 (11.5%)	24 (34.8%)
Made any payment or contribution to be vaccinated against COVID-19						
Paid to get an appointment	20 (3.51%)	17 (5.25%)	3 (1.22%)	12 (3.24%)	7 (5.34%)	1 (1.45%)
Bought the syringes	1 (0.175%)	1 (0.309%)	0 (0%)	1 (0.270%)	0 (0%)	0 (0%)
Paid to get a vaccination certificate	8 (1.40%)	5 (1.54%)	3 (1.22%)	6 (1.62%)	2 (1.53%)	0 (0%)
Totally free of charge	289 (50.7%)	232 (71.6%)	57 (23.2%)	208 (56.2%)	58 (44.3%)	23 (33.3%)
Not vaccinated	256 (44.9%)	74 (22.8%)	182 (74.0%)	147 (39.7%)	64 (48.9%)	45 (65.2%)
Other	1 (0.175%)	0 (0%)	1 (0.407%)	1 (0.270%)	0 (0%)	0 (0%)

Supplementary Table 6: COVID-19 vaccination among refugees and migrants

	Overall	Province		P-value	Immigration status			P-value
		Sindh	Balochistan		Regular Migrant	Irregular Migrant	Refugee	
Offered COVID-19 vaccine	(N=570)	(N=324)	(N=246)		(N=370)	(N=131)	(N=69)	
Yes	376 (66.0%)	283 (87.3%)	93 (37.8%)	<0.001*	245 (66.2%)	94 (71.8%)	37 (53.6%)	<0.001
No	163 (28.6%)	41 (12.7%)	122 (49.6%)		107 (28.9%)	35 (26.7%)	21 (30.4%)	
Don't Know	31 (5.44%)	0 (0%)	31 (12.6%)		18 (4.86%)	2 (1.53%)	11 (15.9%)	
Plan to get vaccinated	(N=194)	(N=41)	(N=153)		(N=125)	(N=37)	(N=32)	
Yes	66 (34.0%)	13 (31.7%)	53 (34.6%)	0.114*	66 (34.0%)	32 (25.6%)	13 (35.1%)	<0.001*
No	115 (59.3%)	28 (68.3%)	87 (56.9%)		115 (59.3%)	83 (66.4%)	24 (64.9%)	
Don't Know	13 (6.70%)	0 (0%)	13 (8.50%)		13 (6.70%)	10 (8.00%)	0 (0%)	
Received the full doses of the COVID-19 vaccine	(N=376)	(N=283)	(N=93)		(N=245)	(N=94)	(N=37)	
Full	248 (66.0%)	205 (72.4%)	43 (46.2%)	<0.001	182 (74.3%)	49 (52.1%)	17 (45.9%)	<0.001
Partial	66 (17.6%)	45 (15.9%)	21 (22.6%)		41 (16.7%)	18 (19.1%)	7 (18.9%)	
Not vaccinated	54 (14.4%)	31 (11.0%)	23 (24.7%)		20 (8.16%)	24 (25.5%)	10 (27.0%)	
Don't Know	8 (2.13%)	2 (0.707%)	6 (6.45%)		2 (0.816%)	3 (3.19%)	3 (8.11%)	
Doses of COVID-19 vaccination received	(N=314)	(N=250)	(N=64)		(N=223)	(N=67)	(N=24)	
One	103 (32.8%)	58 (23.2%)	45 (70.3%)	<0.001	65 (29.1%)	25 (37.3%)	13 (54.2%)	0.088*
Two	199 (63.4%)	181 (72.4%)	18 (28.1%)		150 (67.3%)	38 (56.7%)	11 (45.8%)	
Three	12 (3.82%)	11 (4.40%)	1 (1.56%)		8 (3.59%)	4 (5.97%)	0 (0%)	
Month of receiving the first dose of the COVID-19 vaccine	(N=314)	(N=250)	(N=64)		(N=223)	(N=67)	(N=24)	
Jan – Mar	148 (47.1%)	117 (46.8%)	31 (48.4%)	NA	102 (45.7%)	30 (44.8%)	16 (66.7%)	NA
Apr – Jun	22 (7.01%)	18 (7.20%)	4 (6.25%)		8 (3.59%)	14 (20.9%)	0 (0%)	
Jul – Sep	68 (21.7%)	49 (19.6%)	19 (29.7%)		53 (23.8%)	13 (19.4%)	2 (8.33%)	
Oct – Dec	35 (11.1%)	27 (10.8%)	8 (12.5%)		26 (11.7%)	5 (7.46%)	4 (16.7%)	
Don't Know / Don't Remember	41 (13.1%)	39 (15.6%)	2 (3.13%)		34 (15.2%)	5 (7.46%)	2 (8.33%)	
Year of receiving the first dose of the COVID-19 vaccine	(N=314)	(N=250)	(N=64)		(N=223)	(N=67)	(N=24)	
2020	4 (1.27%)	1 (0.400%)	3 (4.69%)	NA	3 (1.35%)	1 (1.49%)	0 (0%)	NA
2021	186 (59.2%)	142 (56.8%)	44 (68.8%)		135 (60.5%)	39 (58.2%)	12 (50.0%)	
2022	124 (39.5%)	107 (42.8%)	17 (26.6%)		85 (38.1%)	27 (40.3%)	12 (50.0%)	
Vaccine brand of first dose	(N=314)	(N=250)	(N=64)		(N=223)	(N=67)	(N=24)	
Sinovac	65 (20.7%)	59 (23.6%)	6 (9.38%)	NA	45 (20.2%)	16 (23.9%)	4 (16.7%)	NA
Pfizer	63 (20.1%)	63 (25.2%)	0 (0%)		46 (20.6%)	13 (19.4%)	4 (16.7%)	
Moderna	40 (12.7%)	39 (15.6%)	1 (1.56%)		29 (13.0%)	7 (10.4%)	4 (16.7%)	
CanSino	33 (10.5%)	10 (4.00%)	23 (35.9%)		20 (8.97%)	8 (11.9%)	5 (20.8%)	
Sinopharm	27 (8.60%)	24 (9.60%)	3 (4.69%)		18 (8.07%)	9 (13.4%)	0 (0%)	
AstraZeneca	4 (1.27%)	4 (1.60%)	0 (0%)		2 (0.897%)	1 (1.49%)	1 (4.17%)	
Pak vaccine	3 (0.955%)	3 (1.20%)	0 (0%)		3 (1.35%)	0 (0%)	0 (0%)	
Johnson & Johnson	1 (0.318%)	1 (0.400%)	0 (0%)		1 (0.448%)	0 (0%)	0 (0%)	
Don't Know / Don't Remember	78 (24.8%)	47 (18.8%)	31 (48.4%)		59 (26.5%)	13 (19.4%)	6 (25.0%)	
Month of receiving the second dose of the COVID-19 vaccine	(N=211)	(N=192)	(N=19)		(N=158)	(N=42)	(N=11)	
Jan – Mar	78 (27.9%)	77 (32.2%)	1 (2.44%)	NA	57 (28.2%)	14 (23.7%)	7 (36.8%)	NA

Apr – Jun	27 (9.64%)	25 (10.5%)	2 (4.88%)		19 (9.41%)	8 (13.6%)	0 (0%)	
Jul – Sep	35 (12.5%)	29 (12.1%)	6 (14.6%)		24 (11.9%)	10 (16.9%)	1 (5.26%)	
Oct – Dec	43 (15.4%)	35 (14.6%)	8 (19.5%)		36 (17.8%)	5 (8.47%)	2 (10.5%)	
Don't Remember	28 (10.0%)	26 (10.9%)	2 (4.88%)		22 (10.9%)	5 (8.47%)	1 (5.26%)	
Year of receiving the second dose of the COVID-19 vaccine	(N=211)	(N=192)	(N=19)		(N=158)	(N=42)	(N=11)	
2021	116 (55.0%)	100 (52.1%)	16 (84.2%)	NA	89 (56.3%)	23 (54.8%)	4 (36.4%)	NA
2022	95 (45.0%)	92 (47.9%)	3 (15.8%)		69 (43.7%)	19 (45.2%)	7 (63.6%)	
Vaccine brand of second dose	(N=211)	(N=192)	(N=19)		(N=158)	(N=42)	(N=11)	
Pfizer	60 (28.4%)	60 (31.3%)	0 (0%)	NA	46 (29.1%)	10 (23.8%)	4 (36.4%)	NA
Sinovac	52 (24.6%)	47 (24.5%)	5 (26.3%)		39 (24.7%)	11 (26.2%)	2 (18.2%)	
Moderna	34 (16.1%)	33 (17.2%)	1 (5.26%)		27 (17.1%)	4 (9.52%)	3 (27.3%)	
Sinopharm	21 (9.95%)	18 (9.38%)	3 (15.8%)		15 (9.49%)	6 (14.3%)	0 (0%)	
AstraZeneca	3 (1.42%)	3 (1.56%)	0 (0%)		1 (0.633%)	1 (2.38%)	1 (9.09%)	
Covaxin	1 (0.474%)	1 (0.521%)	0 (0%)		1 (0.633%)	0 (0%)	0 (0%)	
Sputnik V	1 (0.474%)	1 (0.521%)	0 (0%)		1 (0.633%)	0 (0%)	0 (0%)	
Don't Know / Don't Remember	39 (18.5%)	29 (15.1%)	10 (52.6%)		28 (17.7%)	10 (23.8%)	1 (9.09%)	
Month of receiving the booster dose	(N=12)	(N=11)	(N=1)		(N=8)	(N=4)	(N=0)	
Jan – Mar	8 (3.27%)	8 (3.94%)	0 (0%)	NA	6 (3.35%)	2 (4.00%)	0 (0%)	NA
Apr – Jun	2 (0.816%)	2 (0.985%)	0 (0%)		1 (0.559%)	1 (2.00%)	0 (0%)	
Don't Know / Don't Remember	2 (0.816%)	1 (0.493%)	1 (2.38%)		1 (0.559%)	1 (2.00%)	0 (0%)	
Year of receiving the booster dose	(N=12)	(N=11)	(N=1)		(N=8)	(N=4)	(N=0)	
2022	10 (83.3%)	10 (90.9%)	0 (0%)	NA	7 (87.5%)	3 (75.0%)	NA	NA
2021	2 (16.7%)	1 (9.09%)	1 (100%)		1 (12.5%)	1 (25.0%)	NA	
Vaccine brand of booster dose	(N=12)	(N=11)	(N=1)		(N=8)	(N=4)	(N=0)	
Pfizer	3 (25.0%)	3 (27.3%)	0 (0%)	NA	1 (12.5%)	2 (50.0%)	NA	NA
Moderna	3 (25.0%)	3 (27.3%)	0 (0%)		2 (25.0%)	1 (25.0%)	NA	
CanSino	2 (16.7%)	2 (18.2%)	0 (0%)		2 (25.0%)	0 (0%)	NA	
Sinovac	1 (8.33%)	1 (9.09%)	0 (0%)		1 (12.5%)	0 (0%)	NA	
Sinopharm	1 (8.33%)	1 (9.09%)	0 (0%)		1 (12.5%)	0 (0%)	NA	
Don't Know / Don't Remember	2 (16.7%)	1 (9.09%)	1 (100%)		1 (12.5%)	1 (25.0%)	NA	
Experienced any side effect after vaccination	(N=12)	(N=11)	(N=1)		(N=8)	(N=4)	(N=0)	
Yes	5 (41.7%)	5 (45.5%)	0 (0%)	NA	3 (37.5%)	2 (50.0%)	NA	NA
No	6 (50.0%)	6 (54.5%)	0 (0%)		4 (50.0%)	2 (50.0%)	NA	
Don't Know	1 (8.33%)	0 (0%)	1 (100%)		1 (12.5%)	0 (0%)	NA	
Type of side effects experienced	(N=5)	(N=5)	-		(N=3)	(N=2)	-	
Fever	5 (100%)	5 (100%)	NA	NA	3 (100%)	2 (100%)	NA	NA
Have a vaccination card or certificate	(N=314)	(N=250)	(N=64)		(N=223)	(N=67)	(N=24)	
Yes	262 (83.4%)	201 (80.4%)	61 (95.3%)	<0.001*	196 (87.9%)	52 (77.6%)	14 (58.3%)	<0.001*
No	50 (15.9%)	48 (19.2%)	2 (3.13%)		27 (12.1%)	14 (20.9%)	9 (37.5%)	
Don't know	2 (0.637%)	1 (0.400%)	1 (1.56%)		0 (0%)	1 (1.49%)	1 (4.17%)	
Place of obtaining the vaccination card or certificate	(N=262)	(N=201)	(N=61)		(N=196)	(N=52)	(N=14)	
Vaccination center	209 (79.8%)	175 (87.1%)	34 (55.7%)	<0.001	154 (78.6%)	48 (92.3%)	7 (50.0%)	0.009*
Website	43 (16.4%)	23 (11.4%)	20 (32.8%)		33 (16.8%)	4 (7.69%)	6 (42.9%)	

From a different health facility	10 (3.82%)	3 (1.49%)	7 (11.5%)		9 (4.59%)	0 (0%)	1 (7.14%)	
Faced any problem acquiring the vaccination card or certificate	(N=262)	(N=201)	(N=61)		(N=196)	(N=52)	(N=14)	
No	240 (91.6%)	185 (92.0%)	55 (90.2%)	0.318*	182 (92.9%)	46 (88.5%)	12 (85.7%)	0.361*
System showed an error	18 (6.87%)	13 (6.47%)	5 (8.20%)		10 (5.10%)	6 (11.5%)	2 (14.3%)	
Data was not correct	3 (1.15%)	3 (1.49%)	0 (0%)		3 (1.53%)	0 (0%)	0 (0%)	
Other	1 (0.382%)	0 (0%)	1 (1.64%)		1 (0.510%)	0 (0%)	0 (0%)	
Vaccination plan implemented in residing country was more accessible to people in mobility compared to other neighboring countries	(N=570)	(N=324)	(N=246)		(N=370)	(N=131)	(N=69)	
Yes	100 (17.5%)	82 (25.3%)	18 (7.32%)	<0.001	66 (17.8%)	26 (19.8%)	8 (11.6%)	<0.001
No	111 (19.5%)	77 (23.8%)	34 (13.8%)		54 (14.6%)	41 (31.3%)	16 (23.2%)	
Don't know how it was in another country	183 (32.1%)	122 (37.7%)	61 (24.8%)		128 (34.6%)	41 (31.3%)	14 (20.3%)	
Don't Know / Don't Remember	176 (30.9%)	43 (13.3%)	133 (54.1%)		122 (33.0%)	23 (17.6%)	31 (44.9%)	
NA: Not applicable * Denotes Fisher's p-value								

Supplementary Table 7: COVID-19 vaccination time

Month-Year	First (N=211)	Second (N=211)	Overall (N=422)
Jan - Jun-2021	27 (12.8%)	16 (7.58%)	43 (10.2%)
Jul - Dec-2021	68 (32.2%)	75 (35.5%)	143 (33.9%)
Don't Remember-2021	24 (11.4%)	25 (11.8%)	49 (11.6%)
Jan - Jun-2022	87 (41.2%)	89 (42.2%)	176 (41.7%)
Jul - Dec-2022	1 (0.474%)	3 (1.42%)	4 (0.948%)
Don't Remember-2022	4 (1.90%)	3 (1.42%)	7 (1.66%)

Supplementary Table 8: COVID-19 vaccination barriers

	Overall	Province		P-value	Immigration status			P-value
		Sindh	Balochistan		Regular Migrant	Irregular Migrant	Refugee	
Main difficulties for the population to NOT get the COVID-19 vaccine	(N=570)	(N=324)	(N=246)		(N=370)	(N=131)	(N=69)	
It is not difficult	259 (45.4%)	189 (58.3%)	70 (28.5%)	NA	176 (47.6%)	62 (47.3%)	21 (30.4%)	NA
The vaccination site is too far away	70 (12.3%)	45 (13.9%)	25 (10.2%)		40 (10.8%)	17 (13.0%)	13 (18.8%)	
The COVID-19 vaccine is not available for a given group	50 (8.77%)	38 (11.7%)	12 (4.88%)		35 (9.46%)	11 (8.40%)	4 (5.80%)	
They can't go on their own (they have physical limitation)	60 (10.5%)	49 (15.1%)	11 (4.47%)		33 (8.92%)	22 (16.8%)	5 (7.25%)	
It is difficult to register for vaccination	50 (8.77%)	35 (10.8%)	15 (6.10%)		20 (5.41%)	22 (16.8%)	8 (11.6%)	
They do not have the internet or a smartphone to register for vaccination	35 (6.14%)	7 (2.16%)	28 (11.4%)		19 (5.14%)	9 (6.87%)	7 (10.1%)	
The waiting time is too long	32 (5.61%)	22 (6.79%)	10 (4.07%)		20 (5.41%)	10 (7.63%)	2 (2.90%)	
Don't have valid documents/CNIC	31 (5.44%)	31 (9.57%)	0 (0%)		9 (2.43%)	19 (14.5%)	3 (4.35%)	
People are turned away without vaccination	29 (5.09%)	19 (5.86%)	10 (4.07%)		15 (4.05%)	9 (6.87%)	5 (7.25%)	
Opening hours are inconvenient	26 (4.56%)	18 (5.56%)	8 (3.25%)		12 (3.24%)	10 (7.63%)	4 (5.80%)	
Vaccination costs too much	24 (4.21%)	23 (7.10%)	1 (0.407%)		17 (4.59%)	6 (4.58%)	1 (1.45%)	
No permission from male members of family	18 (3.16%)	0 (0%)	18 (7.32%)		18 (4.86%)	0 (0%)	0 (0%)	
Misconception spread by people	16 (2.81%)	1 (0.309%)	15 (6.10%)		13 (3.51%)	1 (0.763%)	2 (2.90%)	
No awareness about vaccines	9 (1.58%)	0 (0%)	9 (3.66%)		8 (2.16%)	1 (0.763%)	0 (0%)	
Other reasons	62 (10.9%)	1 (0.309%)	61 (24.8%)		49 (13.2%)	1 (0.763%)	12 (17.4%)	
Ever been denied access to vaccination because of no identity document	(N=314)	(N=250)	(N=64)		(N=223)	(N=67)	(N=24)	
Yes	18 (5.73%)	15 (6.00%)	3 (4.69%)	<0.001	9 (4.04%)	7 (10.4%)	2 (8.33%)	0.015*
No	276 (87.9%)	227 (90.8%)	49 (76.6%)		196 (87.9%)	60 (89.6%)	20 (83.3%)	
Don't Know / Don't Remember	20 (6.37%)	8 (3.20%)	12 (18.8%)		18 (8.07%)	0 (0%)	2 (8.33%)	
A special code was generated in case of unavailability of ID card at the time of vaccination	(N=18)	(N=15)	(N=3)		(N=9)	(N=7)	(N=2)	
Yes	8 (44.4%)	7 (46.7%)	1 (33.3%)	0.247*	4 (44.4%)	2 (28.6%)	2 (100%)	0.228*
No	5 (27.8%)	5 (33.3%)	0 (0%)		4 (44.4%)	1 (14.3%)	0 (0%)	
Not allowed to get vaccinated	3 (16.7%)	2 (13.3%)	1 (33.3%)		0 (0%)	3 (42.9%)	0 (0%)	
Not Applicable	2 (11.1%)	1 (6.67%)	1 (33.3%)		1 (11.1%)	1 (14.3%)	0 (0%)	
Perceived any differences in the way of treatment for vaccinations compared to the majority population	(N=570)	(N=324)	(N=246)		(N=370)	(N=131)	(N=69)	
Yes	165 (28.9%)	146 (45.1%)	19 (7.72%)	<0.001	91 (24.6%)	57 (43.5%)	17 (24.6%)	<0.001
No	220 (38.6%)	138 (42.6%)	82 (33.3%)		159 (43.0%)	43 (32.8%)	18 (26.1%)	
Don't Know / Don't Remember	185 (32.5%)	40 (12.3%)	145 (58.9%)		120 (32.4%)	31 (23.7%)	34 (49.3%)	
Witnessed any kind of discrimination during the vaccination process	(N=570)	(N=324)	(N=246)		(N=370)	(N=131)	(N=69)	
To participant, itself	54 (9.47%)	50 (15.4%)	4 (1.63%)	NA	30 (8.11%)	20 (15.3%)	4 (5.80%)	NA
To a migrant person	18 (3.16%)	15 (4.63%)	3 (1.22%)		8 (2.16%)	10 (7.63%)	0 (0%)	
To the public	16 (2.81%)	9 (2.78%)	7 (2.85%)		11 (2.97%)	2 (1.53%)	3 (4.35%)	
Did not witness any act of discrimination	487 (85.4%)	253 (78.1%)	234 (95.1%)		324 (87.6%)	101 (77.1%)	62 (89.9%)	

Act of discrimination was from:	(N=88)	(N=74)	(N=22)		(N=49)	(N=32)	(N=7)	
Health center staff	52 (59.1%)	45 (60.8%)	7 (50.0%)	NA	29 (59.2%)	20 (62.5%)	3 (42.9%)	NA
Security personnel	29 (33.0%)	28 (37.8%)	1 (7.14%)		16 (32.7%)	11 (34.4%)	2 (28.6%)	
Local population	10 (11.4%)	4 (5.41%)	6 (42.9%)		5 (10.2%)	2 (6.25%)	3 (42.9%)	
Other	3 (3.41%)	2 (2.70%)	1 (7.14%)		1 (2.04%)	1 (3.13%)	1 (14.3%)	
NA: Not applicable								
* Denotes Fisher's p-value								

Supplementary Table 9: COVID-19 vaccine facilitators among refugees and migrants

	Overall	Province			Immigration status			
		Sindh	Balochistan	P-value	Regular Migrant	Irregular Migrant	Refugee	P-value
	(N=570)	(N=324)	(N=246)		(N=370)	(N=131)	(N=69)	
Facilitators of vaccination process in Pakistan								
Timely information provided	197 (34.6%)	169 (52.2%)	28 (11.4%)	NA	139 (37.6%)	50 (38.2%)	8 (11.6%)	NA
Vaccination centers been set up in different areas of the city	175 (30.7%)	166 (51.2%)	9 (3.66%)		117 (31.6%)	45 (34.4%)	13 (18.8%)	
Don't know	244 (42.8%)	37 (11.4%)	207 (84.1%)		157 (42.4%)	38 (29.0%)	49 (71.0%)	
None	12 (2.11%)	10 (3.09%)	2 (0.813%)		6 (1.62%)	5 (3.82%)	1 (1.45%)	
The national government's campaign was successful in getting migrants to go to vaccination centers								
Yes	241 (42.3%)	204 (63.0%)	37 (15.0%)	<0.001	157 (42.4%)	67 (51.1%)	17 (24.6%)	<0.001
No	111 (19.5%)	61 (18.8%)	50 (20.3%)		61 (16.5%)	34 (26.0%)	16 (23.2%)	
Don't Know / Don't Remember	218 (38.2%)	59 (18.2%)	159 (64.6%)		152 (41.1%)	30 (22.9%)	36 (52.2%)	
Health centers set up at the national level are accessible by the community								
Yes	233 (40.9%)	190 (58.6%)	43 (17.5%)	<0.001	142 (38.4%)	74 (56.5%)	17 (24.6%)	<0.001
No	131 (23.0%)	67 (20.7%)	64 (26.0%)		81 (21.9%)	33 (25.2%)	17 (24.6%)	
Don't Know / Don't Remember	206 (36.1%)	67 (20.7%)	139 (56.5%)		147 (39.7%)	24 (18.3%)	35 (50.7%)	
Time to reach the nearest vaccination center from home								
Between 30 min to 1 hour	279 (48.9%)	120 (37.0%)	159 (64.6%)	NA	195 (52.7%)	42 (32.1%)	42 (60.9%)	NA
Less than 15 min	211 (37.0%)	169 (52.2%)	42 (17.1%)		135 (36.5%)	60 (45.8%)	16 (23.2%)	
Between 1 to 2 hours	61 (10.7%)	32 (9.88%)	29 (11.8%)		31 (8.38%)	19 (14.5%)	11 (15.9%)	
More than 2 hours	18 (3.16%)	3 (0.926%)	15 (6.10%)		9 (2.43%)	9 (6.87%)	0 (0%)	
Outside my province	1 (0.175%)	0 (0%)	1 (0.407%)		0 (0%)	1 (0.763%)	0 (0%)	
Vaccination centers hygienic for people								
Yes	295 (51.8%)	251 (77.5%)	44 (17.9%)	<0.001	190 (51.4%)	86 (65.6%)	19 (27.5%)	<0.001
No	100 (17.5%)	41 (12.7%)	59 (24.0%)		59 (15.9%)	22 (16.8%)	19 (27.5%)	
Don't Know / Don't Remember	175 (30.7%)	32 (9.88%)	143 (58.1%)		121 (32.7%)	23 (17.6%)	31 (44.9%)	
Was there a clear, precise, and transparent communication from the national and local government on the situation of COVID 19								
Yes	275 (48.2%)	250 (77.2%)	25 (10.2%)	<0.001	182 (49.2%)	76 (58.0%)	17 (24.6%)	<0.001
No	86 (15.1%)	34 (10.5%)	52 (21.1%)		48 (13.0%)	23 (17.6%)	15 (21.7%)	
Don't Know / Don't Remember	209 (36.7%)	40 (12.3%)	169 (68.7%)		140 (37.8%)	32 (24.4%)	37 (53.6%)	
National government provided adequate information on the percentage of vaccinated people per region								
Yes	259 (45.4%)	236 (72.8%)	23 (9.35%)	<0.001	171 (46.2%)	71 (54.2%)	17 (24.6%)	<0.001
No	104 (18.2%)	46 (14.2%)	58 (23.6%)		60 (16.2%)	28 (21.4%)	16 (23.2%)	
Don't Know / Don't Remember	207 (36.3%)	42 (13.0%)	165 (67.1%)		139 (37.6%)	32 (24.4%)	36 (52.2%)	
NA: not applicable								

Supplementary Table 10: COVID-19 vaccination among migrants (by Site)

	Overall	Quetta Balochistan	Karachi	Afghan Basti Kotri Hyderabad
	(N=570)	(N=246)	(N=163)	(N=161)
Years of Living				
More than 5 years	540 (94.7%)	234 (95.1%)	151 (92.6%)	155 (96.3%)
Less Than 5 Years	30 (5.26%)	12 (4.88%)	12 (7.36%)	6 (3.73%)
Immigration status				
Regular (with valid documents)	370 (64.9%)	164 (66.7%)	109 (66.9%)	97 (60.2%)
Irregular (no valid documents, pending, expired)	131 (23.0%)	34 (13.8%)	50 (30.7%)	47 (29.2%)
Refugee	69 (12.1%)	48 (19.5%)	4 (2.45%)	17 (10.6%)
Gender				
Female	294 (51.6%)	131 (53.3%)	81 (49.7%)	82 (50.9%)
Male	276 (48.4%)	115 (46.7%)	82 (50.3%)	79 (49.1%)
Age				
Less than 18	71 (12.5%)	51 (20.7%)	10 (6.13%)	10 (6.21%)
18 – 49	200 (35.1%)	93 (37.8%)	57 (35.0%)	50 (31.1%)
50 – 59	141 (24.7%)	48 (19.5%)	43 (26.4%)	50 (31.1%)
60 or more	158 (27.7%)	54 (22.0%)	53 (32.5%)	51 (31.7%)
Household members				
Spouse/partner	406 (71.2%)	135 (54.9%)	136 (83.4%)	135 (83.9%)
Daughter/Son	441 (77.4%)	156 (63.4%)	147 (90.2%)	138 (85.7%)
Mother/Father	212 (37.2%)	154 (62.6%)	24 (14.7%)	34 (21.1%)
Sister/Brother	212 (37.2%)	142 (57.7%)	29 (17.8%)	41 (25.5%)
Daughter-in-law/Brother-in-law	131 (23.0%)	96 (39.0%)	14 (8.59%)	21 (13.0%)
Grandchildren	126 (22.1%)	87 (35.4%)	23 (14.1%)	16 (9.94%)
Mother-in-law/Father-in-law	45 (7.89%)	29 (11.8%)	9 (5.52%)	7 (4.35%)
Grandfather/Grandmother	31 (5.44%)	22 (8.94%)	5 (3.07%)	4 (2.48%)
Non-relative	14 (2.46%)	13 (5.28%)	0 (0%)	1 (0.621%)
Other Relative	9 (1.58%)	9 (3.66%)	0 (0%)	0 (0%)
Minors under responsibility				
Yes, full time	256 (44.9%)	63 (25.6%)	105 (64.4%)	88 (54.7%)
Yes, part-time	61 (10.7%)	40 (16.3%)	11 (6.75%)	10 (6.21%)
No	236 (41.4%)	129 (52.4%)	46 (28.2%)	61 (37.9%)
Don't know/don't remember	17 (2.98%)	14 (5.69%)	1 (0.613%)	2 (1.24%)
Education				
Formal education not completed	415 (72.8%)	159 (64.6%)	123 (75.5%)	133 (82.6%)
Primary education	81 (14.2%)	41 (16.7%)	23 (14.1%)	17 (10.6%)
Secondary/Above	60 (10.5%)	39 (15.9%)	13 (7.98%)	8 (4.97%)
I prefer not to say	14 (2.46%)	7 (2.85%)	4 (2.45%)	3 (1.86%)
Participants at risk of COVID-19				
Do not belong to any risk group	351 (61.6%)	155 (63.0%)	94 (57.7%)	102 (63.4%)
60 years or older	124 (21.8%)	38 (15.4%)	45 (27.6%)	41 (25.5%)

	Overall	Quetta Balochistan	Karachi	Afghan Basti Kotri Hyderabad
	(N=570)	(N=246)	(N=163)	(N=161)
Heart disease or high blood pressure	54 (9.47%)	39 (15.9%)	7 (4.29%)	8 (4.97%)
Diabetes	19 (3.33%)	5 (2.03%)	9 (5.52%)	5 (3.11%)
Chronic lung diseases	8 (1.40%)	6 (2.44%)	2 (1.23%)	0 (0%)
Obesity	8 (1.40%)	3 (1.22%)	2 (1.23%)	3 (1.86%)
Weak immune system (including cancer, HIV)	6 (1.05%)	0 (0%)	4 (2.45%)	2 (1.24%)
Infected with COVID-19				
Yes	26 (4.56%)	18 (7.32%)	6 (3.68%)	2 (1.24%)
No	459 (80.5%)	145 (58.9%)	157 (96.3%)	157 (97.5%)
Don't Know	85 (14.9%)	83 (33.7%)	0 (0%)	2 (1.24%)
Had access to the COVID-19 vaccination before getting infected				
Yes	19 (73.1%)	14 (77.8%)	5 (83.3%)	0 (0%)
No	3 (11.5%)	3 (16.7%)	0 (0%)	0 (0%)
Don't Know	4 (15.4%)	1 (5.56%)	1 (16.7%)	2 (100%)
Reason of not getting vaccinated				
Rejected because he/she was a foreigner	3 (42.9%)	1 (25.0%)	0 (0%)	2 (100%)
Vaccination had not started in the country	3 (42.9%)	2 (50.0%)	1 (100%)	0 (0%)
Not willing to get the vaccine	1 (14.3%)	1 (25.0%)	0 (0%)	0 (0%)
COVID-19 confirmed by a test				
Yes	7 (26.9%)	3 (16.7%)	4 (66.7%)	0 (0%)
No	17 (65.4%)	15 (83.3%)	2 (33.3%)	0 (0%)
Don't Know	2 (7.69%)	0 (0%)	0 (0%)	2 (100%)
Hospitalization				
Yes	1 (3.85%)	1 (5.56%)	0 (0%)	0 (0%)
No	23 (88.5%)	17 (94.4%)	6 (100%)	0 (0%)
Don't Know	2 (7.69%)	0 (0%)	0 (0%)	2 (100%)
Measures taken to avoid the spread of the coronavirus				
Washed hands / used disinfectants more often	383 (70.4%)	168 (73.7%)	102 (65.0%)	113 (71.1%)
Generally, more careful with washing and cleaning	307 (56.4%)	145 (63.6%)	71 (45.2%)	91 (57.2%)
Used protective equipment such as a face mask	209 (38.4%)	93 (40.8%)	60 (38.2%)	56 (35.2%)
Kept at least one meter away from other persons	139 (25.6%)	62 (27.2%)	33 (21.0%)	44 (27.7%)
Kept away from crowds	137 (25.2%)	78 (34.2%)	33 (21.0%)	26 (16.4%)
Avoided public gatherings	117 (21.5%)	15 (6.58%)	50 (31.8%)	52 (32.7%)
Canceled or postponed travels	56 (10.3%)	22 (9.65%)	15 (9.55%)	19 (11.9%)
Used less public transportation	49 (9.01%)	26 (11.4%)	11 (7.01%)	12 (7.55%)
Worked from home (had home office) more often than usual	35 (6.43%)	19 (8.33%)	6 (3.82%)	10 (6.29%)
No, not done any of the above	20 (3.68%)	17 (7.46%)	1 (0.637%)	2 (1.26%)
Offered COVID-19 vaccine				
Yes	376 (66.0%)	93 (37.8%)	135 (82.8%)	148 (91.9%)
No	163 (28.6%)	122 (49.6%)	28 (17.2%)	13 (8.07%)
Don't Know	31 (5.44%)	31 (12.6%)	0 (0%)	0 (0%)

	Overall	Quetta Balochistan	Karachi	Afghan Basti Kotri Hyderabad
	(N=570)	(N=246)	(N=163)	(N=161)
Plan to get vaccinated against COVID-19				
Yes	66 (34.0%)	53 (34.6%)	9 (32.1%)	4 (30.8%)
No	115 (59.3%)	87 (56.9%)	19 (67.9%)	9 (69.2%)
Don't Know	13 (6.70%)	13 (8.50%)	0 (0%)	0 (0%)
Reasons of not taking COVID-19 vaccine				
Risk of adverse reactions to COVID-19 vaccines	64 (50.0%)	57 (57.0%)	6 (31.6%)	1 (11.1%)
CNIC Not Available	11 (8.59%)	0 (0%)	11 (57.9%)	0 (0%)
Afraid of/do not like doctors/syringes	11 (8.59%)	10 (10.0%)	1 (5.26%)	0 (0%)
Not comfortable with the new COVID-19 vaccine	10 (7.81%)	6 (6.00%)	2 (10.5%)	2 (22.2%)
Permission Problem	9 (7.03%)	9 (9.00%)	0 (0%)	0 (0%)
COVID-19 vaccines does not work	8 (6.25%)	6 (6.00%)	1 (5.26%)	1 (11.1%)
Adverse reactions to previous vaccines (others than the COVID-19 vaccine)	7 (5.47%)	4 (4.00%)	0 (0%)	3 (33.3%)
Do not feel the need to protect myself	6 (4.69%)	4 (4.00%)	1 (5.26%)	1 (11.1%)
There is too little experience with the use of the vaccine	6 (4.69%)	4 (4.00%)	0 (0%)	2 (22.2%)
There is not much COVID-19 infection in the community	4 (3.13%)	2 (2.00%)	0 (0%)	2 (22.2%)
Lack of Knowledge	4 (3.13%)	4 (4.00%)	0 (0%)	0 (0%)
I don't need the vaccine: rarely/never sick, I don't belong to the priority group	3 (2.34%)	1 (1.00%)	2 (10.5%)	0 (0%)
Want the body to develop natural immunity	3 (2.34%)	2 (2.00%)	1 (5.26%)	0 (0%)
Do not trust the recommendation from the health authorities/municipality	3 (2.34%)	1 (1.00%)	1 (5.26%)	1 (11.1%)
Others	2 (1.56%)	0 (0%)	2 (10.5%)	0 (0%)
I do not need to protect my family/community	2 (1.56%)	2 (2.00%)	0 (0%)	0 (0%)
Information from the media	1 (0.781%)	1 (1.00%)	0 (0%)	0 (0%)
Political reasons (antigovernment feelings)	1 (0.781%)	1 (1.00%)	0 (0%)	0 (0%)
Received the full doses of the COVID-19 vaccine				
Yes	248 (66.0%)	43 (46.2%)	98 (72.6%)	107 (72.3%)
Partially	66 (17.6%)	21 (22.6%)	13 (9.63%)	32 (21.6%)
No	54 (14.4%)	23 (24.7%)	23 (17.0%)	8 (5.41%)
Don't Know	8 (2.13%)	6 (6.45%)	1 (0.741%)	1 (0.676%)
Doses received				
One	103 (32.8%)	45 (70.3%)	21 (18.9%)	37 (26.6%)
Two	199 (63.4%)	18 (28.1%)	85 (76.6%)	96 (69.1%)
Three	12 (3.82%)	1 (1.56%)	5 (4.50%)	6 (4.32%)
Month of receiving the first dose of the COVID-19 vaccine				
JAN – MAR	148 (47.1%)	31 (48.4%)	42 (37.8%)	75 (54.0%)
APR – JUN	22 (7.01%)	4 (6.25%)	3 (2.70%)	15 (10.8%)
JUL – SEP	68 (21.7%)	19 (29.7%)	28 (25.2%)	21 (15.1%)
OCT – DEC	35 (11.1%)	8 (12.5%)	10 (9.01%)	17 (12.2%)
Don't Know / Don't Remember	41 (13.1%)	2 (3.13%)	28 (25.2%)	11 (7.91%)
Year of receiving the first dose of the COVID-19 vaccine				
2020	4 (1.27%)	3 (4.69%)	1 (0.901%)	0 (0%)
2021	186 (59.2%)	44 (68.8%)	74 (66.7%)	68 (48.9%)

	Overall	Quetta Balochistan	Karachi	Afghan Basti Kotri Hyderabad
	(N=570)	(N=246)	(N=163)	(N=161)
2022	124 (39.5%)	17 (26.6%)	36 (32.4%)	71 (51.1%)
Vaccine brand of first dose				
Sinovac	65 (20.7%)	6 (9.38%)	31 (27.9%)	28 (20.1%)
Pfizer	63 (20.1%)	0 (0%)	23 (20.7%)	40 (28.8%)
Moderna	40 (12.7%)	1 (1.56%)	3 (2.70%)	36 (25.9%)
CanSino	33 (10.5%)	23 (35.9%)	5 (4.50%)	5 (3.60%)
Sinopharm	27 (8.60%)	3 (4.69%)	17 (15.3%)	7 (5.04%)
AstraZeneca	4 (1.27%)	0 (0%)	2 (1.80%)	2 (1.44%)
Pak vaccine	3 (0.955%)	0 (0%)	3 (2.70%)	0 (0%)
Johnson & Johnson	1 (0.318%)	0 (0%)	0 (0%)	1 (0.719%)
Don't Know / Don't Remember	78 (24.8%)	31 (48.4%)	27 (24.3%)	20 (14.4%)
Month of receiving the second dose of the COVID-19 vaccine				
JAN – MAR	78 (27.9%)	1 (2.44%)	32 (30.2%)	45 (33.8%)
APR – JUN	27 (9.64%)	2 (4.88%)	8 (7.55%)	17 (12.8%)
JUL – SEP	35 (12.5%)	6 (14.6%)	20 (18.9%)	9 (6.77%)
OCT – DEC	43 (15.4%)	8 (19.5%)	13 (12.3%)	22 (16.5%)
Un-Vaccinated	69 (24.6%)	22 (53.7%)	16 (15.1%)	31 (23.3%)
Don't Remember	28 (10.0%)	2 (4.88%)	17 (16.0%)	9 (6.77%)
Year of receiving the second dose of the COVID-19 vaccine				
2021	116 (55.0%)	16 (84.2%)	55 (61.1%)	45 (44.1%)
2022	95 (45.0%)	3 (15.8%)	35 (38.9%)	57 (55.9%)
Vaccine brand of second dose				
Pfizer	60 (28.4%)	0 (0%)	25 (27.8%)	35 (34.3%)
Sinovac	52 (24.6%)	5 (26.3%)	27 (30.0%)	20 (19.6%)
Moderna	34 (16.1%)	1 (5.26%)	3 (3.33%)	30 (29.4%)
Sinopharm	21 (9.95%)	3 (15.8%)	15 (16.7%)	3 (2.94%)
AstraZeneca	3 (1.42%)	0 (0%)	1 (1.11%)	2 (1.96%)
Covaxin	1 (0.474%)	0 (0%)	1 (1.11%)	0 (0%)
Sputnik V	1 (0.474%)	0 (0%)	1 (1.11%)	0 (0%)
Don't Know / Don't Remember	39 (18.5%)	10 (52.6%)	17 (18.9%)	12 (11.8%)
Month of receiving the booster dose				
JAN – MAR	8 (3.27%)	0 (0%)	4 (4.21%)	4 (3.70%)
APR – JUN	2 (0.816%)	0 (0%)	1 (1.05%)	1 (0.926%)
Un-Vaccinated	233 (95.1%)	41 (97.6%)	90 (94.7%)	102 (94.4%)
Don't Know / Don't Remember	2 (0.816%)	1 (2.38%)	0 (0%)	1 (0.926%)
Year of receiving the booster dose				
2022	10 (83.3%)	0 (0%)	5 (100%)	5 (83.3%)
2021	2 (16.7%)	1 (100%)	0 (0%)	1 (16.7%)
Vaccine brand of booster dose				
Pfizer	3 (25.0%)	0 (0%)	2 (40.0%)	1 (16.7%)
Moderna	3 (25.0%)	0 (0%)	1 (20.0%)	2 (33.3%)

	Overall	Quetta Balochistan	Karachi	Afghan Basti Kotri Hyderabad
	(N=570)	(N=246)	(N=163)	(N=161)
CanSino	2 (16.7%)	0 (0%)	1 (20.0%)	1 (16.7%)
Sinovac	1 (8.33%)	0 (0%)	0 (0%)	1 (16.7%)
Sinopharm	1 (8.33%)	0 (0%)	1 (20.0%)	0 (0%)
Don't Know / Don't Remember	2 (16.7%)	1 (100%)	0 (0%)	1 (16.7%)
Experienced any side effect after vaccination				
Yes	5 (41.7%)	0 (0%)	2 (40.0%)	3 (50.0%)
No	6 (50.0%)	0 (0%)	3 (60.0%)	3 (50.0%)
Don't Know	1 (8.33%)	1 (100%)	0 (0%)	0 (0%)
Type of side effects experienced				
Fever	5 (100%)	NA	2 (100%)	3 (100%)
The vaccine is highly reliable				
Agree	33 (44.6%)	6 (20.0%)	22 (75.9%)	5 (33.3%)
Disagree	24 (32.4%)	14 (46.7%)	2 (6.90%)	8 (53.3%)
Neither agree nor disagree	10 (13.5%)	9 (30.0%)	0 (0%)	1 (6.67%)
Strongly agree	5 (6.76%)	0 (0%)	4 (13.8%)	1 (6.67%)
Strongly disagree	2 (2.70%)	1 (3.33%)	1 (3.45%)	0 (0%)
The vaccine is a government requirement				
Agree	31 (41.9%)	8 (26.7%)	17 (58.6%)	6 (40.0%)
Disagree	18 (24.3%)	11 (36.7%)	2 (6.90%)	5 (33.3%)
Neither agree nor disagree	17 (23.0%)	9 (30.0%)	6 (20.7%)	2 (13.3%)
Strongly agree	4 (5.41%)	0 (0%)	3 (10.3%)	1 (6.67%)
Strongly disagree	4 (5.41%)	2 (6.67%)	1 (3.45%)	1 (6.67%)
The vaccine protects my family, friends and community				
Agree	28 (37.8%)	5 (16.7%)	16 (55.2%)	7 (46.7%)
Neither agree nor disagree	21 (28.4%)	10 (33.3%)	10 (34.5%)	1 (6.67%)
Disagree	21 (28.4%)	14 (46.7%)	1 (3.45%)	6 (40.0%)
Strongly agree	2 (2.70%)	0 (0%)	1 (3.45%)	1 (6.67%)
Strongly disagree	2 (2.70%)	1 (3.33%)	1 (3.45%)	0 (0%)
The vaccine is a requirement to enter establishments				
Disagree	25 (33.8%)	17 (56.7%)	2 (6.90%)	6 (40.0%)
Agree	23 (31.1%)	6 (20.0%)	11 (37.9%)	6 (40.0%)
Neither agree nor disagree	20 (27.0%)	6 (20.0%)	12 (41.4%)	2 (13.3%)
Strongly agree	4 (5.41%)	0 (0%)	3 (10.3%)	1 (6.67%)
Strongly disagree	2 (2.70%)	1 (3.33%)	1 (3.45%)	0 (0%)
Getting vaccinated is my duty				
Disagree	29 (39.2%)	17 (56.7%)	7 (24.1%)	5 (33.3%)
Neither agree nor disagree	19 (25.7%)	7 (23.3%)	8 (27.6%)	4 (26.7%)
Agree	17 (23.0%)	4 (13.3%)	9 (31.0%)	4 (26.7%)
Strongly disagree	5 (6.76%)	2 (6.67%)	2 (6.90%)	1 (6.67%)
Strongly agree	4 (5.41%)	0 (0%)	3 (10.3%)	1 (6.67%)
I get vaccinated because its safe				

	Overall	Quetta Balochistan	Karachi	Afghan Basti Kotri Hyderabad
	(N=570)	(N=246)	(N=163)	(N=161)
Agree	29 (39.2%)	3 (10.0%)	20 (69.0%)	6 (40.0%)
Disagree	21 (28.4%)	16 (53.3%)	0 (0%)	5 (33.3%)
Neither agree nor disagree	17 (23.0%)	10 (33.3%)	4 (13.8%)	3 (20.0%)
Strongly agree	4 (5.41%)	0 (0%)	3 (10.3%)	1 (6.67%)
Strongly disagree	3 (4.05%)	1 (3.33%)	2 (6.90%)	0 (0%)
I would not like to get vaccinated, but I get vaccinated because I am forced				
Disagree	29 (39.2%)	17 (56.7%)	5 (17.2%)	7 (46.7%)
Neither agree nor disagree	19 (25.7%)	6 (20.0%)	9 (31.0%)	4 (26.7%)
Agree	16 (21.6%)	3 (10.0%)	10 (34.5%)	3 (20.0%)
Strongly disagree	7 (9.46%)	4 (13.3%)	3 (10.3%)	0 (0%)
Strongly agree	3 (4.05%)	0 (0%)	2 (6.90%)	1 (6.67%)
Concerned about COVID-19 vaccine serious side effects				
Very concerned	96 (16.8%)	69 (28.0%)	21 (12.9%)	6 (3.73%)
Moderately concerned	69 (12.1%)	42 (17.1%)	13 (7.98%)	14 (8.70%)
A little concerned	270 (47.4%)	106 (43.1%)	72 (44.2%)	92 (57.1%)
Not at all concerned	135 (23.7%)	29 (11.8%)	57 (35.0%)	49 (30.4%)
Willingness to get a COVID-19 vaccine				
Very much	53 (9.30%)	14 (5.69%)	29 (17.8%)	10 (6.21%)
Moderately	131 (23.0%)	63 (25.6%)	32 (19.6%)	36 (22.4%)
A little	318 (55.8%)	133 (54.1%)	84 (51.5%)	101 (62.7%)
Not at all	68 (11.9%)	36 (14.6%)	18 (11.0%)	14 (8.70%)
Preferred Location of getting COVID-19 vaccine				
Hospital	424 (74.4%)	144 (58.5%)	137 (84.0%)	143 (88.8%)
Health Center/Clinic	132 (23.2%)	60 (24.4%)	38 (23.3%)	34 (21.1%)
Workplace	28 (4.91%)	25 (10.2%)	1 (0.613%)	2 (1.24%)
Pharmacy	7 (1.23%)	6 (2.44%)	1 (0.613%)	0 (0%)
Community center, meeting room, local store	16 (2.81%)	14 (5.69%)	2 (1.23%)	0 (0%)
University	1 (0.175%)	1 (0.407%)	0 (0%)	0 (0%)
Shopping Center	4 (0.702%)	3 (1.22%)	1 (0.613%)	0 (0%)
School near the place of residence	71 (12.5%)	46 (18.7%)	10 (6.13%)	15 (9.32%)
Residential Area	30 (5.26%)	21 (8.54%)	4 (2.45%)	5 (3.11%)
I don't want to get vaccinated	36 (6.32%)	28 (11.4%)	4 (2.45%)	4 (2.48%)
Other	1 (0.175%)	1 (0.407%)	0 (0%)	0 (0%)
Final say on getting COVID-19 vaccine (from family)				
Participant, itself	359 (63.0%)	126 (51.2%)	116 (71.2%)	117 (72.7%)
Spouse/partner	79 (13.9%)	37 (15.0%)	24 (14.7%)	18 (11.2%)
Father	66 (11.6%)	47 (19.1%)	9 (5.52%)	10 (6.21%)
Mother	31 (5.44%)	27 (11.0%)	3 (1.84%)	1 (0.621%)
His/her child	30 (5.26%)	7 (2.85%)	10 (6.13%)	13 (8.07%)
Someone else	5 (0.877%)	2 (0.813%)	1 (0.613%)	2 (1.24%)
Family and close friends willing to get a COVID-19 vaccine				

	Overall	Quetta Balochistan	Karachi	Afghan Basti Kotri Hyderabad
	(N=570)	(N=246)	(N=163)	(N=161)
Yes	303 (53.2%)	75 (30.5%)	108 (66.3%)	120 (74.5%)
No	104 (18.2%)	52 (21.1%)	31 (19.0%)	21 (13.0%)
Don't Know	163 (28.6%)	119 (48.4%)	24 (14.7%)	20 (12.4%)
Trust on healthcare providers giving COVID-19 vaccine				
Very much	68 (11.9%)	13 (5.28%)	24 (14.7%)	31 (19.3%)
Moderately	107 (18.8%)	77 (31.3%)	12 (7.36%)	18 (11.2%)
A little	294 (51.6%)	130 (52.8%)	86 (52.8%)	78 (48.4%)
Not at all	101 (17.7%)	26 (10.6%)	41 (25.2%)	34 (21.1%)
Main difficulties for the population to NOT get the COVID-19 vaccine				
Nothing. It is not difficult	259 (45.4%)	70 (28.5%)	78 (47.9%)	111 (68.9%)
The vaccination site is too far away	70 (12.3%)	25 (10.2%)	22 (13.5%)	23 (14.3%)
The COVID-19 vaccine is not available for a given group	50 (8.77%)	12 (4.88%)	23 (14.1%)	15 (9.32%)
They can't go on their own (they have physical limitation)	60 (10.5%)	11 (4.47%)	32 (19.6%)	17 (10.6%)
It is difficult to register for vaccination	50 (8.77%)	15 (6.10%)	26 (16.0%)	9 (5.59%)
They do not have the internet or a smartphone to register for vaccination	35 (6.14%)	28 (11.4%)	5 (3.07%)	2 (1.24%)
The waiting time is too long	32 (5.61%)	10 (4.07%)	15 (9.20%)	7 (4.35%)
Don't have valid documents/CNIC	31 (5.44%)	0 (0%)	30 (18.4%)	1 (0.621%)
People are turned away without vaccination	29 (5.09%)	10 (4.07%)	9 (5.52%)	10 (6.21%)
Opening hours are inconvenient	26 (4.56%)	8 (3.25%)	8 (4.91%)	10 (6.21%)
Vaccination costs too much	24 (4.21%)	1 (0.407%)	18 (11.0%)	5 (3.11%)
No permission from male members of family	18 (3.16%)	18 (7.32%)	0 (0%)	0 (0%)
Misconception spread by peoples	16 (2.81%)	15 (6.10%)	1 (0.613%)	0 (0%)
No awareness about vaccines	9 (1.58%)	9 (3.66%)	0 (0%)	0 (0%)
Others	62 (10.9%)	61 (24.8%)	0 (0%)	1 (0.621%)
Main source of information about the COVID-19 vaccination process				
Local newspapers, radio and/or television channels	334 (58.6%)	103 (41.9%)	129 (79.1%)	102 (63.4%)
Foreign newspapers, radio and/or television channels	164 (28.8%)	53 (21.5%)	50 (30.7%)	61 (37.9%)
Family and/or social network in your home country	139 (24.4%)	88 (35.8%)	29 (17.8%)	22 (13.7%)
Social media	101 (17.7%)	59 (24.0%)	24 (14.7%)	18 (11.2%)
Family or social network in country you are currently living	88 (15.4%)	22 (8.94%)	22 (13.5%)	44 (27.3%)
Local authorities' statements	83 (14.6%)	38 (15.4%)	20 (12.3%)	25 (15.5%)
Camp staff	82 (14.4%)	48 (19.5%)	16 (9.82%)	18 (11.2%)
At your workplace	62 (10.9%)	46 (18.7%)	7 (4.29%)	9 (5.59%)
Brochures	49 (8.60%)	14 (5.69%)	20 (12.3%)	15 (9.32%)
Local government websites	43 (7.54%)	5 (2.03%)	19 (11.7%)	19 (11.8%)
Internet and/or social networks	21 (3.68%)	7 (2.85%)	9 (5.52%)	5 (3.11%)
NGO's	19 (3.33%)	13 (5.28%)	5 (3.07%)	1 (0.621%)
I have not received information about COVID-19 vaccination	6 (1.05%)	5 (2.03%)	0 (0%)	1 (0.621%)
School Teacher	4 (0.702%)	4 (1.63%)	0 (0%)	0 (0%)
Others	4 (0.702%)	3 (1.22%)	0 (0%)	1 (0.621%)

	Overall	Quetta Balochistan	Karachi	Afghan Basti Kotri Hyderabad
	(N=570)	(N=246)	(N=163)	(N=161)
Know about types of vaccines (brands) available for COVID-19				
No	324 (56.8%)	94 (38.2%)	111 (68.1%)	119 (73.9%)
I am Not Sure	131 (23.0%)	126 (51.2%)	2 (1.23%)	3 (1.86%)
Yes	115 (20.2%)	26 (10.6%)	50 (30.7%)	39 (24.2%)
Know about place of getting COVID-19 vaccination				
Yes	323 (56.7%)	84 (34.1%)	130 (79.8%)	109 (67.7%)
No	136 (23.9%)	69 (28.0%)	28 (17.2%)	39 (24.2%)
I am Not Sure	111 (19.5%)	93 (37.8%)	5 (3.07%)	13 (8.07%)
Place of getting COVID-19 vaccine				
Hospital	291 (90.1%)	73 (86.9%)	114 (87.7%)	104 (95.4%)
Health Center/Clinic	93 (28.8%)	35 (41.7%)	37 (28.5%)	21 (19.3%)
Workplace	19 (5.88%)	15 (17.9%)	4 (3.08%)	0 (0%)
Community center, meeting room, or local store	15 (4.64%)	10 (11.9%)	4 (3.08%)	1 (0.917%)
Pharmacy	5 (1.55%)	4 (4.76%)	1 (0.769%)	0 (0%)
Shopping Center	4 (1.24%)	3 (3.57%)	1 (0.769%)	0 (0%)
School	3 (0.929%)	2 (2.38%)	1 (0.769%)	0 (0%)
University	2 (0.619%)	1 (1.19%)	1 (0.769%)	0 (0%)
Other	3 (0.929%)	0 (0%)	3 (2.31%)	0 (0%)
I don't want to get vaccinated	16 (4.95%)	9 (10.7%)	5 (3.85%)	2 (1.83%)
Have you observed/heard any comment about the COVID-19 vaccination for refugees/migrants?				
Yes	127 (22.3%)	61 (24.8%)	43 (26.4%)	23 (14.3%)
No	352 (61.8%)	112 (45.5%)	110 (67.5%)	130 (80.7%)
I am Not Sure	91 (16.0%)	73 (29.7%)	10 (6.13%)	8 (4.97%)
Comments Observed/heard about the COVID-19 vaccination for refugees/migrants				
Request documentation to administer the dose	44 (34.6%)	16 (26.2%)	15 (34.9%)	13 (56.5%)
Only national people have access	26 (20.5%)	8 (13.1%)	17 (39.5%)	1 (4.35%)
Dangerous for health	19 (3.33%)	19 (7.72%)	0 (0%)	0 (0%)
Deport people without documentation	12 (9.45%)	5 (8.20%)	5 (11.6%)	2 (8.70%)
Other	7 (1.23%)	1 (0.407%)	6 (3.68%)	0 (0%)
Don't know/don't remember	19 (15.0%)	12 (19.7%)	0 (0%)	7 (30.4%)
Funder of vaccination process in the country				
Government	391 (68.6%)	88 (35.8%)	148 (90.8%)	155 (96.3%)
NGOs	25 (4.39%)	22 (8.94%)	3 (1.84%)	0 (0%)
Private company	6 (1.05%)	2 (0.813%)	2 (1.23%)	2 (1.24%)
Other	1 (0.175%)	1 (0.407%)	0 (0%)	0 (0%)
Don't know	158 (27.7%)	142 (57.7%)	11 (6.75%)	5 (3.11%)
Made any payment or contribution to be vaccinated against COVID-19				
Paid to get an appointment	20 (3.51%)	3 (1.22%)	7 (4.29%)	10 (6.21%)
Bought the syringes	1 (0.175%)	0 (0%)	0 (0%)	1 (0.621%)
Paid to get a vaccination certificate	8 (1.40%)	3 (1.22%)	3 (1.84%)	2 (1.24%)

	Overall	Quetta Balochistan	Karachi	Afghan Basti Kotri Hyderabad
	(N=570)	(N=246)	(N=163)	(N=161)
Totally free of charge	289 (50.7%)	57 (23.2%)	104 (63.8%)	128 (79.5%)
I have not been vaccinated	256 (44.9%)	182 (74.0%)	52 (31.9%)	22 (13.7%)
Other	1 (0.175%)	1 (0.407%)	0 (0%)	0 (0%)
Received a vaccination card or information on where to find a vaccination card after getting vaccinated				
Yes	286 (91.1%)	59 (92.2%)	101 (91.0%)	126 (90.6%)
No	23 (7.32%)	3 (4.69%)	9 (8.11%)	11 (7.91%)
Don't Know / Don't Remember	5 (1.59%)	2 (3.13%)	1 (0.901%)	2 (1.44%)
Have a vaccination card or certificate				
Yes	262 (83.4%)	61 (95.3%)	97 (87.4%)	104 (74.8%)
No	50 (15.9%)	2 (3.13%)	14 (12.6%)	34 (24.5%)
Don't know	2 (0.637%)	1 (1.56%)	0 (0%)	1 (0.719%)
Place of obtaining the vaccination card or certificate				
Vaccination center	209 (79.8%)	34 (55.7%)	76 (78.4%)	99 (95.2%)
Website	43 (16.4%)	20 (32.8%)	19 (19.6%)	4 (3.85%)
From a different health facility	10 (3.82%)	7 (11.5%)	2 (2.06%)	1 (0.962%)
Faced any problem acquiring the vaccination card or certificate				
No	240 (91.6%)	55 (90.2%)	93 (95.9%)	92 (88.5%)
System showed an error	18 (6.87%)	5 (8.20%)	3 (3.09%)	10 (9.62%)
Data was not correct	3 (1.15%)	0 (0%)	1 (1.03%)	2 (1.92%)
Other	1 (0.382%)	1 (1.64%)	0 (0%)	0 (0%)
Ever been denied access to vaccination because of no identity document				
Yes	18 (5.73%)	3 (4.69%)	7 (6.31%)	8 (5.76%)
No	276 (87.9%)	49 (76.6%)	97 (87.4%)	130 (93.5%)
Don't Know / Don't Remember	20 (6.37%)	12 (18.8%)	7 (6.31%)	1 (0.719%)
A special code was generated in case of unavailability of ID card at the time of vaccination				
Yes	8 (44.4%)	1 (33.3%)	4 (57.1%)	3 (37.5%)
No	5 (27.8%)	0 (0%)	2 (28.6%)	3 (37.5%)
Was not allowed to get vaccinated	3 (16.7%)	1 (33.3%)	1 (14.3%)	1 (12.5%)
Not Applicable	2 (11.1%)	1 (33.3%)	0 (0%)	1 (12.5%)
Vaccination plan implemented in residing country was more accessible to people in mobility compared to other neighboring countries				
Yes	100 (17.5%)	18 (7.32%)	39 (23.9%)	43 (26.7%)
No	111 (19.5%)	34 (13.8%)	33 (20.2%)	44 (27.3%)
Don't know how it was in another country	183 (32.1%)	61 (24.8%)	80 (49.1%)	42 (26.1%)
Don't Know / Don't Remember	176 (30.9%)	133 (54.1%)	11 (6.75%)	32 (19.9%)
Witnessed any kind of discrimination during the vaccination process				
Did not witness any act of discrimination	487 (85.4%)	234 (95.1%)	131 (80.4%)	122 (75.8%)
Yes, to myself	54 (9.47%)	4 (1.63%)	20 (12.3%)	30 (18.6%)
Yes, to a migrant person	18 (3.16%)	3 (1.22%)	9 (5.52%)	6 (3.73%)
Yes, to the general public	16 (2.81%)	7 (2.85%)	4 (2.45%)	5 (3.11%)

	Overall	Quetta Balochistan	Karachi	Afghan Basti Kotri Hyderabad
	(N=570)	(N=246)	(N=163)	(N=161)
Act of discrimination was from:				
Health center staff	52 (59.1%)	7 (50.0%)	27 (81.8%)	18 (43.9%)
Security personnel	29 (33.0%)	1 (7.14%)	6 (18.2%)	22 (53.7%)
Local population	10 (11.4%)	6 (42.9%)	1 (3.03%)	3 (7.32%)
Other	3 (3.41%)	1 (7.14%)	2 (6.06%)	0 (0%)
Facilitators of COVID-19 vaccination process				
Timely information has been provided	197 (34.6%)	28 (11.4%)	83 (50.9%)	86 (53.4%)
Vaccination centers have been set up in different areas of city	175 (30.7%)	9 (3.66%)	86 (52.8%)	80 (49.7%)
I don't know	244 (42.8%)	207 (84.1%)	22 (13.5%)	15 (9.32%)
None	12 (2.11%)	2 (0.813%)	1 (0.613%)	9 (5.59%)
Perceived any differences in the way of treatment for vaccinations compared to the majority population				
Yes	165 (28.9%)	19 (7.72%)	73 (44.8%)	73 (45.3%)
No	220 (38.6%)	82 (33.3%)	68 (41.7%)	70 (43.5%)
Don't Know / Don't Remember	185 (32.5%)	145 (58.9%)	22 (13.5%)	18 (11.2%)
The national government's campaign was successful in getting migrants to go to vaccination centers				
Yes	241 (42.3%)	37 (15.0%)	97 (59.5%)	107 (66.5%)
No	111 (19.5%)	50 (20.3%)	36 (22.1%)	25 (15.5%)
Don't Know / Don't Remember	218 (38.2%)	159 (64.6%)	30 (18.4%)	29 (18.0%)
Health centers set up at the national level are accessible by the community				
Yes	233 (40.9%)	43 (17.5%)	98 (60.1%)	92 (57.1%)
No	131 (23.0%)	64 (26.0%)	36 (22.1%)	31 (19.3%)
Don't Know / Don't Remember	206 (36.1%)	139 (56.5%)	29 (17.8%)	38 (23.6%)
Time to reach the nearest vaccination center from home				
Between 30 min to 1 hour	279 (48.9%)	159 (64.6%)	71 (43.6%)	49 (30.4%)
Less than 15 min	211 (37.0%)	42 (17.1%)	69 (42.3%)	100 (62.1%)
Between 1 to 2 hours	61 (10.7%)	29 (11.8%)	22 (13.5%)	10 (6.21%)
More than 2 hours	18 (3.16%)	15 (6.10%)	1 (0.613%)	2 (1.24%)
Outside my province	1 (0.175%)	1 (0.407%)	0 (0%)	0 (0%)
Vaccination centers hygienic for people				
Yes	295 (51.8%)	44 (17.9%)	121 (74.2%)	130 (80.7%)
No	100 (17.5%)	59 (24.0%)	19 (11.7%)	22 (13.7%)
Don't Know / Don't Remember	175 (30.7%)	143 (58.1%)	23 (14.1%)	9 (5.59%)
National government provided adequate information on the percentage of vaccinated people per region				
Yes	259 (45.4%)	23 (9.35%)	112 (68.7%)	124 (77.0%)
No	104 (18.2%)	58 (23.6%)	23 (14.1%)	23 (14.3%)
Don't Know / Don't Remember	207 (36.3%)	165 (67.1%)	28 (17.2%)	14 (8.70%)
Was there a clear, precise and transparent communication from the national and local government on the situation of COVID 19				
Yes	275 (48.2%)	25 (10.2%)	117 (71.8%)	133 (82.6%)
No	86 (15.1%)	52 (21.1%)	20 (12.3%)	14 (8.70%)

	Overall	Quetta Balochistan	Karachi	Afghan Basti Kotri Hyderabad
	(N=570)	(N=246)	(N=163)	(N=161)
Don't Know / Don't Remember	209 (36.7%)	169 (68.7%)	26 (16.0%)	14 (8.70%)

Supplementary Table 11: COVID-19 vaccination among migrants (by Country of Origin)

	Overall	Afghanistan	Bangladesh
	(N=570)	(N=246)	(N=163)
Years of Living			
More than 5 years	540 (94.7%)	390 (95.6%)	150 (92.6%)
Less Than 5 Years	30 (5.26%)	18 (4.41%)	12 (7.41%)
Immigration status			
Regular (with valid documents)	370 (64.9%)	261 (64.0%)	109 (67.3%)
Irregular (no valid documents, pending, expired)	131 (23.0%)	82 (20.1%)	49 (30.2%)
Refugee	69 (12.1%)	65 (15.9%)	4 (2.47%)
Gender			
Female	294 (51.6%)	213 (52.2%)	81 (50.0%)
Male	276 (48.4%)	195 (47.8%)	81 (50.0%)
Age			
Less than 18	71 (12.5%)	62 (15.2%)	9 (5.56%)
18 – 49	200 (35.1%)	143 (35.0%)	57 (35.2%)
50 – 59	141 (24.7%)	98 (24.0%)	43 (26.5%)
60 or more	158 (27.7%)	105 (25.7%)	53 (32.7%)
Household members			
Spouse/partner	406 (71.2%)	270 (66.2%)	136 (84.0%)
Daughter/Son	441 (77.4%)	294 (72.1%)	147 (90.7%)
Mother/Father	212 (37.2%)	189 (46.3%)	23 (14.2%)
Sister/Brother	212 (37.2%)	184 (45.1%)	28 (17.3%)
Daughter-in-law/Brother-in-law	131 (23.0%)	117 (28.7%)	14 (8.64%)
Grandchildren	126 (22.1%)	103 (25.2%)	23 (14.2%)
Mother-in-law/Father-in-law	45 (7.89%)	36 (8.82%)	9 (5.56%)
Grandfather/Grandmother	31 (5.44%)	26 (6.37%)	5 (3.09%)
Non-relative	14 (2.46%)	14 (3.43%)	0 (0%)
Other Relative	9 (1.58%)	9 (2.21%)	0 (0%)
Minors under responsibility			
Yes, full time	256 (44.9%)	151 (37.0%)	105 (64.8%)
Yes, part-time	61 (10.7%)	50 (12.3%)	11 (6.79%)
No	236 (41.4%)	191 (46.8%)	45 (27.8%)
Don't know/don't remember	17 (2.98%)	16 (3.92%)	1 (0.617%)
Education			
Formal education not completed	415 (72.8%)	293 (71.8%)	122 (75.3%)
Primary education	81 (14.2%)	58 (14.2%)	23 (14.2%)
Secondary/Above	60 (10.5%)	47 (11.5%)	13 (8.02%)
I prefer not to say	14 (2.46%)	10 (2.45%)	4 (2.47%)
Participants at risk of COVID-19			
Do not belong to any risk group	351 (61.6%)	258 (63.2%)	93 (57.4%)
60 years or older	124 (21.8%)	79 (19.4%)	45 (27.8%)
Heart disease or high blood pressure	54 (9.47%)	47 (11.5%)	7 (4.32%)
Diabetes	19 (3.33%)	10 (2.45%)	9 (5.56%)

	Overall	Afghanistan	Bangladesh
	(N=570)	(N=246)	(N=163)
Chronic lung diseases	8 (1.40%)	6 (1.47%)	2 (1.23%)
Obesity	8 (1.40%)	6 (1.47%)	2 (1.23%)
Weak immune system (including cancer, HIV)	6 (1.05%)	2 (0.490%)	4 (2.47%)
Infected with COVID-19			
Yes	26 (4.56%)	20 (4.90%)	6 (3.70%)
No	459 (80.5%)	303 (74.3%)	156 (96.3%)
Don't Know	85 (14.9%)	85 (20.8%)	0 (0%)
Had access to the COVID-19 vaccination before getting infected			
Yes	19 (73.1%)	14 (70.0%)	5 (83.3%)
No	3 (11.5%)	3 (15.0%)	0 (0%)
Don't Know	4 (15.4%)	3 (15.0%)	1 (16.7%)
Reason of not getting vaccinated			
Rejected because he/she was a foreigner	3 (42.9%)	3 (50.0%)	0 (0%)
Vaccination had not started in the country	3 (42.9%)	2 (33.3%)	1 (100%)
Not willing to get the vaccine	1 (14.3%)	1 (16.7%)	0 (0%)
COVID-19 confirmed by a test			
Yes	7 (26.9%)	3 (15.0%)	4 (66.7%)
No	17 (65.4%)	15 (75.0%)	2 (33.3%)
Don't Know	2 (7.69%)	2 (10.0%)	0 (0%)
Hospitalization			
Yes	1 (3.85%)	1 (5.00%)	0 (0%)
No	23 (88.5%)	17 (85.0%)	6 (100%)
Don't Know	2 (7.69%)	2 (10.0%)	0 (0%)
Measures taken to avoid the spread of the coronavirus			
Washed hands / used disinfectants more often	383 (70.4%)	282 (72.7%)	101 (64.7%)
Generally, more careful with washing and cleaning	307 (56.4%)	236 (60.8%)	71 (45.5%)
Used protective equipment such as a face mask	209 (38.4%)	150 (38.7%)	59 (37.8%)
Kept at least one meter away from other persons	139 (25.6%)	106 (27.3%)	33 (21.2%)
Kept away from crowds	137 (25.2%)	104 (26.8%)	33 (21.2%)
Avoided public gatherings	117 (21.5%)	67 (17.3%)	50 (32.1%)
Canceled or postponed travels	56 (10.3%)	41 (10.6%)	15 (9.62%)
Used less public transportation	49 (9.01%)	38 (9.79%)	11 (7.05%)
Worked from home (had home office) more often than usual	35 (6.43%)	29 (7.47%)	6 (3.85%)
No, not done any of the above	20 (3.68%)	19 (4.90%)	1 (0.641%)
Offered COVID-19 vaccine			
Yes	376 (66.0%)	242 (59.3%)	134 (82.7%)
No	163 (28.6%)	135 (33.1%)	28 (17.3%)
Don't Know	31 (5.44%)	31 (7.60%)	0 (0%)
Plan to get vaccinated against COVID-19			
Yes	66 (34.0%)	57 (34.3%)	9 (32.1%)
No	115 (59.3%)	96 (57.8%)	19 (67.9%)

	Overall	Afghanistan	Bangladesh
	(N=570)	(N=246)	(N=163)
Don't Know	13 (6.70%)	13 (7.83%)	0 (0%)
Reasons of not taking COVID-19 vaccine			
Risk of adverse reactions to COVID-19 vaccines	64 (50.0%)	58 (53.2%)	6 (31.6%)
CNIC Not Available	11 (8.59%)	0 (0%)	11 (57.9%)
Afraid of/do not like doctors/syringes	11 (8.59%)	10 (9.17%)	1 (5.26%)
Not comfortable with the new COVID-19 vaccine	10 (7.81%)	8 (7.34%)	2 (10.5%)
Permission Problem	9 (7.03%)	9 (8.26%)	0 (0%)
COVID-19 vaccines does not work	8 (6.25%)	7 (6.42%)	1 (5.26%)
Adverse reactions to previous vaccines (others than the COVID-19 vaccine)	7 (5.47%)	7 (6.42%)	0 (0%)
Do not feel the need to protect myself	6 (4.69%)	5 (4.59%)	1 (5.26%)
There is too little experience with the use of the vaccine	6 (4.69%)	6 (5.50%)	0 (0%)
There is not much COVID-19 infection in the community	4 (3.13%)	4 (3.67%)	0 (0%)
Lack of Knowledge	4 (3.13%)	4 (3.67%)	0 (0%)
I don't need the vaccine: rarely/never sick, I don't belong to the priority group	3 (2.34%)	1 (0.917%)	2 (10.5%)
Want the body to develop natural immunity	3 (2.34%)	2 (1.83%)	1 (5.26%)
Do not trust the recommendation from the health authorities/municipality	3 (2.34%)	2 (1.83%)	1 (5.26%)
Others	2 (1.56%)	0 (0%)	2 (10.5%)
I do not need to protect my family/community	2 (1.56%)	2 (1.83%)	0 (0%)
Information from the media	1 (0.781%)	1 (0.917%)	0 (0%)
Political reasons (antigovernment feelings)	1 (0.781%)	1 (0.917%)	0 (0%)
Received the full doses of the COVID-19 vaccine			
Yes	248 (66.0%)	150 (62.0%)	98 (73.1%)
Partially	66 (17.6%)	53 (21.9%)	13 (9.70%)
No	54 (14.4%)	32 (13.2%)	22 (16.4%)
Don't Know	8 (2.13%)	7 (2.89%)	1 (0.746%)
Doses received			
One	103 (32.8%)	82 (40.4%)	21 (18.9%)
Two	199 (63.4%)	114 (56.2%)	85 (76.6%)
Three	12 (3.82%)	7 (3.45%)	5 (4.50%)
Month of receiving the first dose of the COVID-19 vaccine			
JAN – MAR	148 (47.1%)	106 (52.2%)	42 (37.8%)
APR – JUN	22 (7.01%)	19 (9.36%)	3 (2.70%)
JUL – SEP	68 (21.7%)	40 (19.7%)	28 (25.2%)
OCT – DEC	35 (11.1%)	25 (12.3%)	10 (9.01%)
Don't Know / Don't Remember	41 (13.1%)	13 (6.40%)	28 (25.2%)
Year of receiving the first dose of the COVID-19 vaccine			
2020	4 (1.27%)	3 (1.48%)	1 (0.901%)
2021	186 (59.2%)	112 (55.2%)	74 (66.7%)
2022	124 (39.5%)	88 (43.3%)	36 (32.4%)
Vaccine brand of first dose			
Sinovac	65 (20.7%)	34 (16.7%)	31 (27.9%)

	Overall	Afghanistan	Bangladesh
	(N=570)	(N=246)	(N=163)
Pfizer	63 (20.1%)	40 (19.7%)	23 (20.7%)
Moderna	40 (12.7%)	37 (18.2%)	3 (2.70%)
CanSino	33 (10.5%)	28 (13.8%)	5 (4.50%)
Sinopharm	27 (8.60%)	10 (4.93%)	17 (15.3%)
AstraZeneca	4 (1.27%)	2 (0.985%)	2 (1.80%)
Pak vaccine	3 (0.955%)	0 (0%)	3 (2.70%)
Johnson & Johnson	1 (0.318%)	1 (0.493%)	0 (0%)
Don't Know / Don't Remember	78 (24.8%)	51 (25.1%)	27 (24.3%)
Month of receiving the second dose of the COVID-19 vaccine			
JAN – MAR	78 (27.9%)	46 (26.4%)	32 (30.2%)
APR – JUN	27 (9.64%)	19 (10.9%)	8 (7.55%)
JUL – SEP	35 (12.5%)	15 (8.62%)	20 (18.9%)
OCT – DEC	43 (15.4%)	30 (17.2%)	13 (12.3%)
Un-Vaccinated	69 (24.6%)	53 (30.5%)	16 (15.1%)
Don't Remember	28 (10.0%)	11 (6.32%)	17 (16.0%)
Year of receiving the second dose of the COVID-19 vaccine			
2021	116 (55.0%)	61 (50.4%)	55 (61.1%)
2022	95 (45.0%)	60 (49.6%)	35 (38.9%)
Vaccine brand of second dose			
Pfizer	60 (28.4%)	35 (28.9%)	25 (27.8%)
Sinovac	52 (24.6%)	25 (20.7%)	27 (30.0%)
Moderna	34 (16.1%)	31 (25.6%)	3 (3.33%)
Sinopharm	21 (9.95%)	6 (4.96%)	15 (16.7%)
AstraZeneca	3 (1.42%)	2 (1.65%)	1 (1.11%)
Covaxin	1 (0.474%)	0 (0%)	1 (1.11%)
Sputnik V	1 (0.474%)	0 (0%)	1 (1.11%)
Don't Know / Don't Remember	39 (18.5%)	22 (18.2%)	17 (18.9%)
Month of receiving the booster dose			
JAN – MAR	8 (3.27%)	4 (2.67%)	4 (4.21%)
APR – JUN	2 (0.816%)	1 (0.667%)	1 (1.05%)
Un-Vaccinated	233 (95.1%)	143 (95.3%)	90 (94.7%)
Don't Know / Don't Remember	2 (0.816%)	2 (1.33%)	0 (0%)
Year of receiving the booster dose			
2022	10 (83.3%)	5 (71.4%)	5 (100%)
2021	2 (16.7%)	2 (28.6%)	0 (0%)
Vaccine brand of booster dose			
Pfizer	3 (25.0%)	1 (14.3%)	2 (40.0%)
Moderna	3 (25.0%)	2 (28.6%)	1 (20.0%)
CanSino	2 (16.7%)	1 (14.3%)	1 (20.0%)
Sinovac	1 (8.33%)	1 (14.3%)	0 (0%)
Sinopharm	1 (8.33%)	0 (0%)	1 (20.0%)

	Overall	Afghanistan	Bangladesh
	(N=570)	(N=246)	(N=163)
Don't Know / Don't Remember	2 (16.7%)	2 (28.6%)	0 (0%)
Experienced any side effect after vaccination			
Yes	5 (41.7%)	3 (42.9%)	2 (40.0%)
No	6 (50.0%)	3 (42.9%)	3 (60.0%)
Don't Know	1 (8.33%)	1 (14.3%)	0 (0%)
Type of side effects experienced			
Fever	5 (100%)	3 (100%)	2 (100%)
The vaccine is highly reliable			
Agree	33 (44.6%)	11 (23.9%)	22 (78.6%)
Disagree	24 (32.4%)	22 (47.8%)	2 (7.14%)
Neither agree nor disagree	10 (13.5%)	10 (21.7%)	0 (0%)
Strongly agree	5 (6.76%)	2 (4.35%)	3 (10.7%)
Strongly disagree	2 (2.70%)	1 (2.17%)	1 (3.57%)
The vaccine is a government requirement			
Agree	31 (41.9%)	14 (30.4%)	17 (60.7%)
Disagree	18 (24.3%)	16 (34.8%)	2 (7.14%)
Neither agree nor disagree	17 (23.0%)	11 (23.9%)	6 (21.4%)
Strongly agree	4 (5.41%)	2 (4.35%)	2 (7.14%)
Strongly disagree	4 (5.41%)	3 (6.52%)	1 (3.57%)
The vaccine protects my family, friends and community			
Agree	28 (37.8%)	12 (26.1%)	16 (57.1%)
Neither agree nor disagree	21 (28.4%)	11 (23.9%)	10 (35.7%)
Disagree	21 (28.4%)	20 (43.5%)	1 (3.57%)
Strongly agree	2 (2.70%)	2 (4.35%)	0 (0%)
Strongly disagree	2 (2.70%)	1 (2.17%)	1 (3.57%)
The vaccine is a requirement to enter establishments			
Disagree	25 (33.8%)	23 (50.0%)	2 (7.14%)
Agree	23 (31.1%)	12 (26.1%)	11 (39.3%)
Neither agree nor disagree	20 (27.0%)	8 (17.4%)	12 (42.9%)
Strongly agree	4 (5.41%)	2 (4.35%)	2 (7.14%)
Strongly disagree	2 (2.70%)	1 (2.17%)	1 (3.57%)
Getting vaccinated is my duty			
Disagree	29 (39.2%)	22 (47.8%)	7 (25.0%)
Neither agree nor disagree	19 (25.7%)	11 (23.9%)	8 (28.6%)
Agree	17 (23.0%)	8 (17.4%)	9 (32.1%)
Strongly disagree	5 (6.76%)	3 (6.52%)	2 (7.14%)
Strongly agree	4 (5.41%)	2 (4.35%)	2 (7.14%)
I get vaccinated because its safe			
Agree	29 (39.2%)	9 (19.6%)	20 (71.4%)
Disagree	21 (28.4%)	21 (45.7%)	0 (0%)
Neither agree nor disagree	17 (23.0%)	13 (28.3%)	4 (14.3%)

	Overall	Afghanistan	Bangladesh
	(N=570)	(N=246)	(N=163)
Strongly agree	4 (5.41%)	2 (4.35%)	2 (7.14%)
Strongly disagree	3 (4.05%)	1 (2.17%)	2 (7.14%)
I would not like to get vaccinated, but I get vaccinated because I am forced			
Disagree	29 (39.2%)	24 (52.2%)	5 (17.9%)
Neither agree nor disagree	19 (25.7%)	10 (21.7%)	9 (32.1%)
Agree	16 (21.6%)	6 (13.0%)	10 (35.7%)
Strongly disagree	7 (9.46%)	4 (8.70%)	3 (10.7%)
Strongly agree	3 (4.05%)	2 (4.35%)	1 (3.57%)
Concerned about COVID-19 vaccine serious side effects			
Very concerned	96 (16.8%)	75 (18.4%)	21 (13.0%)
Moderately concerned	69 (12.1%)	56 (13.7%)	13 (8.02%)
A little concerned	270 (47.4%)	198 (48.5%)	72 (44.4%)
Not at all concerned	135 (23.7%)	79 (19.4%)	56 (34.6%)
Willingness to get a COVID-19 vaccine			
Very much	53 (9.30%)	24 (5.88%)	29 (17.9%)
Moderately	131 (23.0%)	99 (24.3%)	32 (19.8%)
A little	318 (55.8%)	235 (57.6%)	83 (51.2%)
Not at all	68 (11.9%)	50 (12.3%)	18 (11.1%)
Preferred Location of getting COVID-19 vaccine			
Hospital	424 (74.4%)	288 (70.6%)	136 (84.0%)
Health Center/Clinic	132 (23.2%)	94 (23.0%)	38 (23.5%)
Workplace	28 (4.91%)	27 (6.62%)	1 (0.617%)
Pharmacy	7 (1.23%)	6 (1.47%)	1 (0.617%)
Community center, meeting room, local store	16 (2.81%)	14 (3.43%)	2 (1.23%)
University	1 (0.175%)	1 (0.245%)	0 (0%)
Shopping Center	4 (0.702%)	3 (0.735%)	1 (0.617%)
School near the place of residence	71 (12.5%)	61 (15.0%)	10 (6.17%)
Residential Area	30 (5.26%)	26 (6.37%)	4 (2.47%)
I don't want to get vaccinated	36 (6.32%)	32 (7.84%)	4 (2.47%)
Other	1 (0.175%)	1 (0.245%)	0 (0%)
Final say on getting COVID-19 vaccine (from family)			
Participant, itself	359 (63.0%)	244 (59.8%)	115 (71.0%)
Spouse/partner	79 (13.9%)	55 (13.5%)	24 (14.8%)
Father	66 (11.6%)	57 (14.0%)	9 (5.56%)
Mother	31 (5.44%)	28 (6.86%)	3 (1.85%)
His/her child	30 (5.26%)	20 (4.90%)	10 (6.17%)
Someone else	5 (0.877%)	4 (0.980%)	1 (0.617%)
Family and close friends willing to get a COVID-19 vaccine			
Yes	303 (53.2%)	195 (47.8%)	108 (66.7%)
No	104 (18.2%)	74 (18.1%)	30 (18.5%)
Don't Know	163 (28.6%)	139 (34.1%)	24 (14.8%)

	Overall	Afghanistan	Bangladesh
	(N=570)	(N=246)	(N=163)
Trust on healthcare providers giving COVID-19 vaccine			
Very much	68 (11.9%)	44 (10.8%)	24 (14.8%)
Moderately	107 (18.8%)	95 (23.3%)	12 (7.41%)
A little	294 (51.6%)	209 (51.2%)	85 (52.5%)
Not at all	101 (17.7%)	60 (14.7%)	41 (25.3%)
Main difficulties for the population to NOT get the COVID-19 vaccine			
Nothing. It is not difficult	259 (45.4%)	181 (44.4%)	78 (48.1%)
The vaccination site is too far away	70 (12.3%)	49 (12.0%)	21 (13.0%)
The COVID-19 vaccine is not available for a given group	50 (8.77%)	27 (6.62%)	23 (14.2%)
They can't go on their own (they have physical limitation)	60 (10.5%)	28 (6.86%)	32 (19.8%)
It is difficult to register for vaccination	50 (8.77%)	24 (5.88%)	26 (16.0%)
They do not have the internet or a smartphone to register for vaccination	35 (6.14%)	30 (7.35%)	5 (3.09%)
The waiting time is too long	32 (5.61%)	17 (4.17%)	15 (9.26%)
Don't have valid documents/CNIC	31 (5.44%)	1 (0.245%)	30 (18.5%)
People are turned away without vaccination	29 (5.09%)	20 (4.90%)	9 (5.56%)
Opening hours are inconvenient	26 (4.56%)	19 (4.66%)	7 (4.32%)
Vaccination costs too much	24 (4.21%)	6 (1.47%)	18 (11.1%)
No permission from male members of family	18 (3.16%)	18 (4.41%)	0 (0%)
Misconception spread by peoples	16 (2.81%)	15 (3.68%)	1 (0.617%)
No awareness about vaccines	9 (1.58%)	9 (2.21%)	0 (0%)
Others	62 (10.9%)	62 (15.2%)	0 (0%)
Main source of information about the COVID-19 vaccination process			
Local newspapers, radio and/or television channels	334 (58.6%)	206 (50.5%)	128 (79.0%)
Foreign newspapers, radio and/or television channels	164 (28.8%)	115 (28.2%)	49 (30.2%)
Family and/or social network in your home country	139 (24.4%)	110 (27.0%)	29 (17.9%)
Social media	101 (17.7%)	77 (18.9%)	24 (14.8%)
Family or social network in country you are currently living	88 (15.4%)	66 (16.2%)	22 (13.6%)
Local authorities' statements	83 (14.6%)	63 (15.4%)	20 (12.3%)
Camp staff	82 (14.4%)	66 (16.2%)	16 (9.88%)
At your workplace	62 (10.9%)	55 (13.5%)	7 (4.32%)
Brochures	49 (8.60%)	29 (7.11%)	20 (12.3%)
Local government websites	43 (7.54%)	24 (5.88%)	19 (11.7%)
Internet and/or social networks	21 (3.68%)	12 (2.94%)	9 (5.56%)
NGO's	19 (3.33%)	14 (3.43%)	5 (3.09%)
School Teacher	4 (0.702%)	4 (0.980%)	0 (0%)
Others	4 (0.702%)	4 (0.980%)	0 (0%)
I have not received information about COVID-19 vaccination	6 (1.05%)	6 (1.47%)	0 (0%)
Know about types of vaccines (brands) available for COVID-19			
Yes	115 (20.2%)	65 (15.9%)	50 (30.9%)
No	324 (56.8%)	214 (52.5%)	110 (67.9%)
I am Not Sure	131 (23.0%)	129 (31.6%)	2 (1.23%)

	Overall	Afghanistan	Bangladesh
	(N=570)	(N=246)	(N=163)
Know about place of getting COVID-19 vaccination			
Yes	323 (56.7%)	194 (47.5%)	129 (79.6%)
No	136 (23.9%)	108 (26.5%)	28 (17.3%)
I am Not Sure	111 (19.5%)	106 (26.0%)	5 (3.09%)
Place of getting COVID-19 vaccine			
Hospital	291 (90.1%)	178 (91.8%)	113 (87.6%)
Health Center/Clinic	93 (28.8%)	56 (28.9%)	37 (28.7%)
Workplace	19 (5.88%)	15 (7.73%)	4 (3.10%)
Community center, meeting room, or local store	15 (4.64%)	11 (5.67%)	4 (3.10%)
Pharmacy	5 (1.55%)	4 (2.06%)	1 (0.775%)
Shopping Center	4 (1.24%)	3 (1.55%)	1 (0.775%)
School	3 (0.929%)	2 (1.03%)	1 (0.775%)
University	2 (0.619%)	1 (0.515%)	1 (0.775%)
Other	3 (0.929%)	0 (0%)	3 (2.33%)
I don't want to get vaccinated	16 (4.95%)	11 (5.67%)	5 (3.88%)
Have you observed/heard any comment about the COVID-19 vaccination for refugees/migrants?			
Yes	127 (22.3%)	84 (20.6%)	43 (26.5%)
No	352 (61.8%)	243 (59.6%)	109 (67.3%)
I am Not Sure	91 (16.0%)	81 (19.9%)	10 (6.17%)
Comments Observed/heard about the COVID-19 vaccination for refugees/migrants			
Request documentation to administer the dose	44 (34.6%)	29 (34.5%)	15 (34.9%)
Only national people have access	26 (20.5%)	9 (10.7%)	17 (39.5%)
Dangerous for health	19 (3.33%)	19 (4.66%)	0 (0%)
Deport people without documentation	12 (9.45%)	7 (8.33%)	5 (11.6%)
Other	7 (1.23%)	1 (0.245%)	6 (3.70%)
Don't know/don't remember	19 (15.0%)	19 (22.6%)	0 (0%)
Funder of vaccination process in the country			
Government	391 (68.6%)	244 (59.8%)	147 (90.7%)
NGOs	25 (4.39%)	22 (5.39%)	3 (1.85%)
Private company	6 (1.05%)	4 (0.980%)	2 (1.23%)
Other	1 (0.175%)	1 (0.245%)	0 (0%)
Don't know	158 (27.7%)	147 (36.0%)	11 (6.79%)
Made any payment or contribution to be vaccinated against COVID-19			
Paid to get an appointment	20 (3.51%)	13 (3.19%)	7 (4.32%)
Bought the syringes	1 (0.175%)	1 (0.245%)	0 (0%)
Paid to get a vaccination certificate	8 (1.40%)	5 (1.23%)	3 (1.85%)
Totally free of charge	289 (50.7%)	185 (45.3%)	104 (64.2%)
I have not been vaccinated	256 (44.9%)	205 (50.2%)	51 (31.5%)
Other	1 (0.175%)	1 (0.245%)	0 (0%)
Received a vaccination card or information on where to find a vaccination card after getting vaccinated			
Yes	286 (91.1%)	185 (91.1%)	101 (91.0%)

	Overall	Afghanistan	Bangladesh
	(N=570)	(N=246)	(N=163)
No	23 (7.32%)	14 (6.90%)	9 (8.11%)
Don't Know / Don't Remember	5 (1.59%)	4 (1.97%)	1 (0.901%)
Have a vaccination card or certificate			
Yes	262 (83.4%)	165 (81.3%)	97 (87.4%)
No	50 (15.9%)	36 (17.7%)	14 (12.6%)
Don't know	2 (0.637%)	2 (0.985%)	0 (0%)
Place of obtaining the vaccination card or certificate			
Vaccination center	209 (79.8%)	133 (80.6%)	76 (78.4%)
Website	43 (16.4%)	24 (14.5%)	19 (19.6%)
From a different health facility	10 (3.82%)	8 (4.85%)	2 (2.06%)
Faced any problem acquiring the vaccination card or certificate			
No	240 (91.6%)	147 (89.1%)	93 (95.9%)
System showed an error	18 (6.87%)	15 (9.09%)	3 (3.09%)
Data was not correct	3 (1.15%)	2 (1.21%)	1 (1.03%)
Other	1 (0.382%)	1 (0.606%)	0 (0%)
Ever been denied access to vaccination because of no identity document			
Yes	18 (5.73%)	11 (5.42%)	7 (6.31%)
No	276 (87.9%)	179 (88.2%)	97 (87.4%)
Don't Know / Don't Remember	20 (6.37%)	13 (6.40%)	7 (6.31%)
A special code was generated in case of unavailability of ID card at the time of vaccination			
Yes	8 (44.4%)	4 (36.4%)	4 (57.1%)
No	5 (27.8%)	3 (27.3%)	2 (28.6%)
Was not allowed to get vaccinated	3 (16.7%)	2 (18.2%)	1 (14.3%)
Not Applicable	2 (11.1%)	2 (18.2%)	0 (0%)
Vaccination plan implemented in residing country was more accessible to people in mobility compared to other neighboring countries			
Yes	100 (17.5%)	61 (15.0%)	39 (24.1%)
No	111 (19.5%)	78 (19.1%)	33 (20.4%)
Don't know how it was in another country	183 (32.1%)	104 (25.5%)	79 (48.8%)
Don't Know / Don't Remember	176 (30.9%)	165 (40.4%)	11 (6.79%)
Witnessed any kind of discrimination during the vaccination process			
Did not witness any act of discrimination	487 (85.4%)	357 (87.5%)	130 (80.2%)
Yes, to myself	54 (9.47%)	34 (8.33%)	20 (12.3%)
Yes, to a migrant person	18 (3.16%)	9 (2.21%)	9 (5.56%)
Yes, to the general public	16 (2.81%)	12 (2.94%)	4 (2.47%)
Act of discrimination was from:			
Health center staff	52 (59.1%)	25 (45.5%)	27 (81.8%)
Security personnel	29 (33.0%)	23 (41.8%)	6 (18.2%)
Local population	10 (11.4%)	9 (16.4%)	1 (3.03%)
Other	3 (3.41%)	1 (1.82%)	2 (6.06%)
Facilitators of COVID-19 vaccination process			
Timely information has been provided	197 (34.6%)	115 (28.2%)	82 (50.6%)

	Overall	Afghanistan	Bangladesh
	(N=570)	(N=246)	(N=163)
Vaccination centers have been set up in different areas of city	175 (30.7%)	89 (21.8%)	86 (53.1%)
I don't know	244 (42.8%)	222 (54.4%)	22 (13.6%)
None	12 (2.11%)	11 (2.70%)	1 (0.617%)
Perceived any differences in the way of treatment for vaccinations compared to the majority population			
Yes	165 (28.9%)	92 (22.5%)	73 (45.1%)
No	220 (38.6%)	153 (37.5%)	67 (41.4%)
Don't Know / Don't Remember	185 (32.5%)	163 (40.0%)	22 (13.6%)
The national government's campaign was successful in getting migrants to go to vaccination centers			
Yes	241 (42.3%)	144 (35.3%)	97 (59.9%)
No	111 (19.5%)	76 (18.6%)	35 (21.6%)
Don't Know / Don't Remember	218 (38.2%)	188 (46.1%)	30 (18.5%)
Health centers set up at the national level are accessible by the community			
Yes	233 (40.9%)	135 (33.1%)	98 (60.5%)
No	131 (23.0%)	96 (23.5%)	35 (21.6%)
Don't Know / Don't Remember	206 (36.1%)	177 (43.4%)	29 (17.9%)
Time to reach the nearest vaccination center from home			
Between 30 min to 1 hour	279 (48.9%)	208 (51.0%)	71 (43.8%)
Less than 15 min	211 (37.0%)	143 (35.0%)	68 (42.0%)
Between 1 to 2 hours	61 (10.7%)	39 (9.56%)	22 (13.6%)
More than 2 hours	18 (3.16%)	17 (4.17%)	1 (0.617%)
Outside my province	1 (0.175%)	1 (0.245%)	0 (0%)
Vaccination centers hygienic for people			
Yes	295 (51.8%)	175 (42.9%)	120 (74.1%)
No	100 (17.5%)	81 (19.9%)	19 (11.7%)
Don't Know / Don't Remember	175 (30.7%)	152 (37.3%)	23 (14.2%)
National government provided adequate information on the percentage of vaccinated people per region			
Yes	259 (45.4%)	148 (36.3%)	111 (68.5%)
No	104 (18.2%)	81 (19.9%)	23 (14.2%)
Don't Know / Don't Remember	207 (36.3%)	179 (43.9%)	28 (17.3%)
Was there a clear, precise and transparent communication from the national and local government on the situation of COVID 19			
Yes	275 (48.2%)	159 (39.0%)	116 (71.6%)
No	86 (15.1%)	66 (16.2%)	20 (12.3%)
Don't Know / Don't Remember	209 (36.7%)	183 (44.9%)	26 (16.0%)

Supplementary Table 12: COVID-19 vaccination among migrants (by Years of Living in Pakistan)

	Overall	More than 5 years	Less Than 5 Years
	(N=570)	(N=540)	(N=30)
Years of Living			
More than 5 years	540 (94.7%)	540 (100%)	0 (0%)
Less Than 5 Years	30 (5.26%)	0 (0%)	30 (100%)
Immigration status			
Regular (with valid documents)	370 (64.9%)	350 (64.8%)	20 (66.7%)
Irregular (no valid documents, pending, expired)	131 (23.0%)	126 (23.3%)	5 (16.7%)
Refugee	69 (12.1%)	64 (11.9%)	5 (16.7%)
Gender			
Female	294 (51.6%)	290 (53.7%)	4 (13.3%)
Male	276 (48.4%)	250 (46.3%)	26 (86.7%)
Age			
Less than 18	71 (12.5%)	62 (15.2%)	9 (5.56%)
18 – 49	200 (35.1%)	143 (35.0%)	57 (35.2%)
50 – 59	141 (24.7%)	98 (24.0%)	43 (26.5%)
60 or more	158 (27.7%)	105 (25.7%)	53 (32.7%)
Household members			
Spouse/partner	406 (71.2%)	386 (71.5%)	20 (66.7%)
Daughter/Son	441 (77.4%)	419 (77.6%)	22 (73.3%)
Mother/Father	212 (37.2%)	200 (37.0%)	12 (40.0%)
Sister/Brother	212 (37.2%)	201 (37.2%)	11 (36.7%)
Daughter-in-law/Brother-in-law	131 (23.0%)	130 (24.1%)	1 (3.33%)
Grandchildren	126 (22.1%)	123 (22.8%)	3 (10.0%)
Mother-in-law/Father-in-law	45 (7.89%)	43 (7.96%)	2 (6.67%)
Grandfather/Grandmother	31 (5.44%)	30 (5.56%)	1 (3.33%)
Non-relative	14 (2.46%)	14 (2.59%)	0 (0%)
Other Relative	9 (1.58%)	7 (1.30%)	2 (6.67%)
Minors under responsibility			
Yes, full time	256 (44.9%)	239 (44.3%)	17 (56.7%)
Yes, part-time	61 (10.7%)	60 (11.1%)	1 (3.33%)
No	236 (41.4%)	227 (42.0%)	9 (30.0%)
Don't know/don't remember	17 (2.98%)	14 (2.59%)	3 (10.0%)
Education			
Formal education not completed	415 (72.8%)	394 (73.0%)	21 (70.0%)
Primary education	81 (14.2%)	79 (14.6%)	2 (6.67%)
Secondary/Above	60 (10.5%)	55 (10.2%)	5 (16.7%)
I prefer not to say	14 (2.46%)	12 (2.22%)	2 (6.67%)
Participants at risk of COVID-19			
Do not belong to any risk group	351 (61.6%)	330 (61.1%)	21 (70.0%)
60 years or older	124 (21.8%)	121 (22.4%)	3 (10.0%)
Heart disease or high blood pressure	54 (9.47%)	52 (9.63%)	2 (6.67%)
Diabetes	19 (3.33%)	17 (3.15%)	2 (6.67%)

	Overall	More than 5 years	Less Than 5 Years
	(N=570)	(N=540)	(N=30)
Chronic lung diseases	8 (1.40%)	8 (1.48%)	0 (0%)
Obesity	8 (1.40%)	7 (1.30%)	1 (3.33%)
Weak immune system (including cancer, HIV)	6 (1.05%)	5 (0.926%)	1 (3.33%)
Infected with COVID-19			
Yes	26 (4.56%)	25 (4.63%)	1 (3.33%)
No	459 (80.5%)	434 (80.4%)	25 (83.3%)
Don't Know	85 (14.9%)	81 (15.0%)	4 (13.3%)
Had access to the COVID-19 vaccination before getting infected			
Yes	19 (73.1%)	18 (72.0%)	1 (100%)
No	3 (11.5%)	3 (12.0%)	0 (0%)
Don't Know	4 (15.4%)	4 (16.0%)	0 (0%)
Reason of not getting vaccinated			
Rejected because he/she was a foreigner	3 (42.9%)	3 (42.9%)	NA
Vaccination had not started in the country	3 (42.9%)	3 (42.9%)	NA
Not willing to get the vaccine	1 (14.3%)	1 (14.3%)	NA
COVID-19 confirmed by a test			
Yes	7 (26.9%)	7 (28.0%)	0 (0%)
No	17 (65.4%)	16 (64.0%)	1 (100%)
Don't Know	2 (7.69%)	2 (8.00%)	0 (0%)
Hospitalization			
Yes	1 (3.85%)	1 (4.00%)	0 (0%)
No	23 (88.5%)	22 (88.0%)	1 (100%)
Don't Know	2 (7.69%)	2 (8.00%)	0 (0%)
Measures taken to avoid the spread of the coronavirus			
Washed hands / used disinfectants more often	383 (70.4%)	368 (71.5%)	15 (51.7%)
Generally, more careful with washing and cleaning	307 (56.4%)	293 (56.9%)	14 (48.3%)
Used protective equipment such as a face mask	209 (38.4%)	192 (37.3%)	17 (58.6%)
Kept at least one meter away from other persons	139 (25.6%)	134 (26.0%)	5 (17.2%)
Kept away from crowds	137 (25.2%)	132 (25.6%)	5 (17.2%)
Avoided public gatherings	117 (21.5%)	114 (22.1%)	3 (10.3%)
Canceled or postponed travels	56 (10.3%)	56 (10.9%)	0 (0%)
Used less public transportation	49 (9.01%)	47 (9.13%)	2 (6.90%)
Worked from home (had home office) more often than usual	35 (6.43%)	35 (6.80%)	0 (0%)
No, not done any of the above	20 (3.68%)	18 (3.50%)	2 (6.90%)
Offered COVID-19 vaccine			
Yes	376 (66.0%)	353 (65.4%)	23 (76.7%)
No	163 (28.6%)	158 (29.3%)	5 (16.7%)
Don't Know	31 (5.44%)	29 (5.37%)	2 (6.67%)
Plan to get vaccinated against COVID-19			
Yes	66 (34.0%)	60 (32.1%)	6 (85.7%)
No	115 (59.3%)	114 (61.0%)	1 (14.3%)

	Overall	More than 5 years	Less Than 5 Years
	(N=570)	(N=540)	(N=30)
Don't Know	13 (6.70%)	13 (6.95%)	0 (0%)
Reasons of not taking COVID-19 vaccine			
Risk of adverse reactions to COVID-19 vaccines	64 (50.0%)	63 (49.6%)	1 (100%)
CNIC Not Available	11 (8.59%)	11 (8.66%)	0 (0%)
Afraid of/do not like doctors/syringes	11 (8.59%)	11 (8.66%)	0 (0%)
Not comfortable with the new COVID-19 vaccine	10 (7.81%)	10 (7.87%)	0 (0%)
Permission Problem	9 (7.03%)	8 (6.30%)	1 (100%)
COVID-19 vaccines does not work	8 (6.25%)	8 (6.30%)	0 (0%)
Adverse reactions to previous vaccines (others than the COVID-19 vaccine)	7 (5.47%)	7 (5.51%)	0 (0%)
Do not feel the need to protect myself	6 (4.69%)	6 (4.72%)	0 (0%)
There is too little experience with the use of the vaccine	6 (4.69%)	6 (4.72%)	0 (0%)
There is not much COVID-19 infection in the community	4 (3.13%)	4 (3.15%)	0 (0%)
Lack of Knowledge	4 (3.13%)	4 (3.15%)	0 (0%)
I don't need the vaccine: rarely/never sick, I don't belong to the priority group	3 (2.34%)	3 (2.36%)	0 (0%)
Want the body to develop natural immunity	3 (2.34%)	3 (2.36%)	0 (0%)
Do not trust the recommendation from the health authorities/municipality	3 (2.34%)	3 (2.36%)	0 (0%)
Others	2 (1.56%)	2 (1.57%)	0 (0%)
I do not need to protect my family/community	2 (1.56%)	2 (1.57%)	0 (0%)
Information from the media	1 (0.781%)	1 (0.787%)	0 (0%)
Political reasons (antigovernment feelings)	1 (0.781%)	1 (0.787%)	0 (0%)
Received the full doses of the COVID-19 vaccine			
Yes	248 (66.0%)	233 (66.0%)	15 (65.2%)
Partially	66 (17.6%)	62 (17.6%)	4 (17.4%)
No	54 (14.4%)	50 (14.2%)	4 (17.4%)
Don't Know	8 (2.13%)	8 (2.27%)	0 (0%)
Doses received			
One	103 (32.8%)	96 (32.5%)	7 (36.8%)
Two	199 (63.4%)	188 (63.7%)	11 (57.9%)
Three	12 (3.82%)	11 (3.73%)	1 (5.26%)
Month of receiving the first dose of the COVID-19 vaccine			
JAN – MAR	148 (47.1%)	139 (47.1%)	9 (47.4%)
APR – JUN	22 (7.01%)	22 (7.46%)	0 (0%)
JUL – SEP	68 (21.7%)	67 (22.7%)	1 (5.26%)
OCT – DEC	35 (11.1%)	34 (11.5%)	1 (5.26%)
Don't Know / Don't Remember	41 (13.1%)	33 (11.2%)	8 (42.1%)
Year of receiving the first dose of the COVID-19 vaccine			
2020	4 (1.27%)	4 (1.36%)	0 (0%)
2021	186 (59.2%)	176 (59.7%)	10 (52.6%)
2022	124 (39.5%)	115 (39.0%)	9 (47.4%)
Vaccine brand of first dose			
Sinovac	65 (20.7%)	62 (21.0%)	3 (15.8%)

	Overall	More than 5 years	Less Than 5 Years
	(N=570)	(N=540)	(N=30)
Pfizer	63 (20.1%)	60 (20.3%)	3 (15.8%)
Moderna	40 (12.7%)	38 (12.9%)	2 (10.5%)
CanSino	33 (10.5%)	30 (10.2%)	3 (15.8%)
Sinopharm	27 (8.60%)	27 (9.15%)	0 (0%)
AstraZeneca	4 (1.27%)	4 (1.36%)	0 (0%)
Pak vaccine	3 (0.955%)	3 (1.02%)	0 (0%)
Johnson & Johnson	1 (0.318%)	1 (0.339%)	0 (0%)
Don't Know / Don't Remember	78 (24.8%)	70 (23.7%)	8 (42.1%)
Month of receiving the second dose of the COVID-19 vaccine			
JAN – MAR	78 (27.9%)	72 (27.3%)	6 (37.5%)
APR – JUN	27 (9.64%)	26 (9.85%)	1 (6.25%)
JUL – SEP	35 (12.5%)	35 (13.3%)	0 (0%)
OCT – DEC	43 (15.4%)	42 (15.9%)	1 (6.25%)
Un-Vaccinated	69 (24.6%)	65 (24.6%)	4 (25.0%)
Don't Remember	28 (10.0%)	24 (9.09%)	4 (25.0%)
Year of receiving the second dose of the COVID-19 vaccine			
2021	116 (55.0%)	111 (55.8%)	5 (41.7%)
2022	95 (45.0%)	88 (44.2%)	7 (58.3%)
Vaccine brand of second dose			
Pfizer	60 (28.4%)	56 (28.1%)	4 (33.3%)
Sinovac	52 (24.6%)	50 (25.1%)	2 (16.7%)
Moderna	34 (16.1%)	32 (16.1%)	2 (16.7%)
Sinopharm	21 (9.95%)	21 (10.6%)	0 (0%)
AstraZeneca	3 (1.42%)	3 (1.51%)	0 (0%)
Covaxin	1 (0.474%)	1 (0.503%)	0 (0%)
Sputnik V	1 (0.474%)	1 (0.503%)	0 (0%)
Don't Know / Don't Remember	39 (18.5%)	35 (17.6%)	4 (33.3%)
Month of receiving the booster dose			
JAN – MAR	8 (3.27%)	8 (3.48%)	0 (0%)
APR – JUN	2 (0.816%)	2 (0.870%)	0 (0%)
Un-Vaccinated	233 (95.1%)	219 (95.2%)	14 (93.3%)
Don't Know / Don't Remember	2 (0.816%)	1 (0.435%)	1 (6.67%)
Year of receiving the booster dose			
2022	10 (83.3%)	10 (90.9%)	0 (0%)
2021	2 (16.7%)	1 (9.09%)	1 (100%)
Vaccine brand of booster dose			
Pfizer	3 (25.0%)	3 (27.3%)	0 (0%)
Moderna	3 (25.0%)	3 (27.3%)	0 (0%)
CanSino	2 (16.7%)	2 (18.2%)	0 (0%)
Sinovac	1 (8.33%)	1 (9.09%)	0 (0%)
Sinopharm	1 (8.33%)	1 (9.09%)	0 (0%)

	Overall	More than 5 years	Less Than 5 Years
	(N=570)	(N=540)	(N=30)
Don't Know / Don't Remember	2 (16.7%)	1 (9.09%)	1 (100%)
Experienced any side effect after vaccination			
Yes	5 (41.7%)	4 (36.4%)	1 (100%)
No	6 (50.0%)	6 (54.5%)	0 (0%)
Don't Know	1 (8.33%)	1 (9.09%)	0 (0%)
Type of side effects experienced			
Fever	5 (100%)	4 (100%)	1 (100%)
The vaccine is highly reliable			
Agree	33 (44.6%)	32 (46.4%)	1 (20.0%)
Disagree	24 (32.4%)	21 (30.4%)	3 (60.0%)
Neither agree nor disagree	10 (13.5%)	10 (14.5%)	0 (0%)
Strongly agree	5 (6.76%)	4 (5.80%)	1 (20.0%)
Strongly disagree	2 (2.70%)	2 (2.90%)	0 (0%)
The vaccine is a government requirement			
Agree	31 (41.9%)	30 (43.5%)	1 (20.0%)
Disagree	18 (24.3%)	16 (23.2%)	2 (40.0%)
Neither agree nor disagree	17 (23.0%)	17 (24.6%)	0 (0%)
Strongly agree	4 (5.41%)	3 (4.35%)	1 (20.0%)
Strongly disagree	4 (5.41%)	3 (4.35%)	1 (20.0%)
The vaccine protects my family, friends and community			
Agree	28 (37.8%)	28 (40.6%)	0 (0%)
Neither agree nor disagree	21 (28.4%)	20 (29.0%)	1 (20.0%)
Disagree	21 (28.4%)	18 (26.1%)	3 (60.0%)
Strongly agree	2 (2.70%)	1 (1.45%)	1 (20.0%)
Strongly disagree	2 (2.70%)	2 (2.90%)	0 (0%)
The vaccine is a requirement to enter establishments			
Disagree	25 (33.8%)	22 (31.9%)	3 (60.0%)
Agree	23 (31.1%)	23 (33.3%)	0 (0%)
Neither agree nor disagree	20 (27.0%)	19 (27.5%)	1 (20.0%)
Strongly agree	4 (5.41%)	3 (4.35%)	1 (20.0%)
Strongly disagree	2 (2.70%)	2 (2.90%)	0 (0%)
Getting vaccinated is my duty			
Disagree	29 (39.2%)	26 (37.7%)	3 (60.0%)
Neither agree nor disagree	19 (25.7%)	18 (26.1%)	1 (20.0%)
Agree	17 (23.0%)	17 (24.6%)	0 (0%)
Strongly disagree	5 (6.76%)	5 (7.25%)	0 (0%)
Strongly agree	4 (5.41%)	3 (4.35%)	1 (20.0%)
I get vaccinated because its safe			
Agree	29 (39.2%)	28 (40.6%)	1 (20.0%)
Disagree	21 (28.4%)	18 (26.1%)	3 (60.0%)
Neither agree nor disagree	17 (23.0%)	17 (24.6%)	0 (0%)

	Overall	More than 5 years	Less Than 5 Years
	(N=570)	(N=540)	(N=30)
Strongly agree	4 (5.41%)	3 (4.35%)	1 (20.0%)
Strongly disagree	3 (4.05%)	3 (4.35%)	0 (0%)
I would not like to get vaccinated, but I get vaccinated because I am forced			
Disagree	29 (39.2%)	26 (37.7%)	3 (60.0%)
Neither agree nor disagree	19 (25.7%)	19 (27.5%)	0 (0%)
Agree	16 (21.6%)	16 (23.2%)	0 (0%)
Strongly disagree	7 (9.46%)	6 (8.70%)	1 (20.0%)
Strongly agree	3 (4.05%)	2 (2.90%)	1 (20.0%)
Concerned about COVID-19 vaccine serious side effects			
Very concerned	96 (16.8%)	92 (17.0%)	4 (13.3%)
Moderately concerned	69 (12.1%)	65 (12.0%)	4 (13.3%)
A little concerned	270 (47.4%)	262 (48.5%)	8 (26.7%)
Not at all concerned	135 (23.7%)	121 (22.4%)	14 (46.7%)
Willingness to get a COVID-19 vaccine			
Very much	53 (9.30%)	52 (9.63%)	1 (3.33%)
Moderately	131 (23.0%)	124 (23.0%)	7 (23.3%)
A little	318 (55.8%)	299 (55.4%)	19 (63.3%)
Not at all	68 (11.9%)	65 (12.0%)	3 (10.0%)
Preferred Location of getting COVID-19 vaccine			
Hospital	424 (74.4%)	399 (73.9%)	25 (83.3%)
Health Center/Clinic	132 (23.2%)	126 (23.3%)	6 (20.0%)
Workplace	28 (4.91%)	26 (4.81%)	2 (6.67%)
Pharmacy	7 (1.23%)	7 (1.30%)	0 (0%)
Community center, meeting room, local store	16 (2.81%)	16 (2.96%)	0 (0%)
University	1 (0.175%)	1 (0.185%)	0 (0%)
Shopping Center	4 (0.702%)	4 (0.741%)	0 (0%)
School near the place of residence	71 (12.5%)	69 (12.8%)	2 (6.67%)
Residential Area	30 (5.26%)	29 (5.37%)	1 (3.33%)
I don't want to get vaccinated	36 (6.32%)	35 (6.48%)	1 (3.33%)
Other	1 (0.175%)	1 (0.185%)	0 (0%)
Final say on getting COVID-19 vaccine (from family)			
Participant, itself	359 (63.0%)	334 (61.9%)	25 (83.3%)
Spouse/partner	79 (13.9%)	79 (14.6%)	0 (0%)
Father	66 (11.6%)	63 (11.7%)	3 (10.0%)
Mother	31 (5.44%)	29 (5.37%)	2 (6.67%)
His/her child	30 (5.26%)	30 (5.56%)	0 (0%)
Someone else	5 (0.877%)	5 (0.926%)	0 (0%)
Family and close friends willing to get a COVID-19 vaccine			
Yes	303 (53.2%)	281 (52.0%)	22 (73.3%)
No	104 (18.2%)	99 (18.3%)	5 (16.7%)
Don't Know	163 (28.6%)	160 (29.6%)	3 (10.0%)

	Overall	More than 5 years	Less Than 5 Years
	(N=570)	(N=540)	(N=30)
Trust on healthcare providers giving COVID-19 vaccine			
Very much	68 (11.9%)	66 (12.2%)	2 (6.67%)
Moderately	107 (18.8%)	100 (18.5%)	7 (23.3%)
A little	294 (51.6%)	283 (52.4%)	11 (36.7%)
Not at all	101 (17.7%)	91 (16.9%)	10 (33.3%)
Main difficulties for the population to NOT get the COVID-19 vaccine			
Nothing. It is not difficult	259 (45.4%)	241 (44.6%)	18 (60.0%)
The vaccination site is too far away	70 (12.3%)	69 (12.8%)	1 (3.33%)
The COVID-19 vaccine is not available for a given group	50 (8.77%)	45 (8.33%)	5 (16.7%)
They can't go on their own (they have physical limitation)	60 (10.5%)	55 (10.2%)	5 (16.7%)
It is difficult to register for vaccination	50 (8.77%)	46 (8.52%)	4 (13.3%)
They do not have the internet or a smartphone to register for vaccination	35 (6.14%)	34 (6.30%)	1 (3.33%)
The waiting time is too long	32 (5.61%)	32 (5.93%)	0 (0%)
Don't have valid documents/CNIC	31 (5.44%)	30 (5.56%)	1 (3.33%)
People are turned away without vaccination	29 (5.09%)	26 (4.81%)	3 (10.0%)
Opening hours are inconvenient	26 (4.56%)	26 (4.81%)	0 (0%)
Vaccination costs too much	24 (4.21%)	23 (4.26%)	1 (3.33%)
No permission from male members of family	18 (3.16%)	18 (3.33%)	0 (0%)
Misconception spread by peoples	16 (2.81%)	15 (2.78%)	1 (3.33%)
No awareness about vaccines	9 (1.58%)	8 (1.48%)	1 (3.33%)
Others	62 (10.9%)	61 (11.3%)	1 (3.33%)
Main source of information about the COVID-19 vaccination process			
Local newspapers, radio and/or television channels	334 (58.6%)	317 (58.7%)	17 (56.7%)
Foreign newspapers, radio and/or television channels	164 (28.8%)	149 (27.6%)	15 (50.0%)
Family and/or social network in your home country	139 (24.4%)	137 (25.4%)	2 (6.67%)
Social media	101 (17.7%)	95 (17.6%)	6 (20.0%)
Family or social network in country you are currently living	88 (15.4%)	84 (15.6%)	4 (13.3%)
Local authorities' statements	83 (14.6%)	78 (14.4%)	5 (16.7%)
Camp staff	82 (14.4%)	79 (14.6%)	3 (10.0%)
At your workplace	62 (10.9%)	60 (11.1%)	2 (6.67%)
Brochures	49 (8.60%)	48 (8.89%)	1 (3.33%)
Local government websites	43 (7.54%)	37 (6.85%)	6 (20.0%)
Internet and/or social networks	21 (3.68%)	21 (3.89%)	0 (0%)
NGO's	19 (3.33%)	19 (3.52%)	0 (0%)
I have not received information about COVID-19 vaccination	6 (1.05%)	5 (0.926%)	1 (3.33%)
School Teacher	4 (0.702%)	4 (0.741%)	0 (0%)
Others	4 (0.702%)	4 (0.741%)	0 (0%)
Know about types of vaccines (brands) available for COVID-19			
Yes	115 (20.2%)	108 (20.0%)	7 (23.3%)
No	324 (56.8%)	307 (56.9%)	17 (56.7%)
I am Not Sure	131 (23.0%)	125 (23.1%)	6 (20.0%)

	Overall	More than 5 years	Less Than 5 Years
	(N=570)	(N=540)	(N=30)
Know about place of getting COVID-19 vaccination			
Yes	323 (56.7%)	304 (56.3%)	19 (63.3%)
No	136 (23.9%)	131 (24.3%)	5 (16.7%)
I am Not Sure	111 (19.5%)	105 (19.4%)	6 (20.0%)
Place of getting COVID-19 vaccine			
Hospital	291 (90.1%)	272 (89.5%)	19 (100%)
Health Center/Clinic	93 (28.8%)	89 (29.3%)	4 (21.1%)
Workplace	19 (5.88%)	17 (5.59%)	2 (10.5%)
Community center, meeting room, or local store	15 (4.64%)	15 (4.93%)	0 (0%)
Pharmacy	5 (1.55%)	5 (1.64%)	0 (0%)
Shopping Center	4 (1.24%)	4 (1.32%)	0 (0%)
School	3 (0.929%)	3 (0.987%)	0 (0%)
University	2 (0.619%)	2 (0.658%)	0 (0%)
Other	3 (0.929%)	3 (0.987%)	0 (0%)
I don't want to get vaccinated	16 (4.95%)	15 (4.93%)	1 (5.26%)
Have you observed/heard any comment about the COVID-19 vaccination for refugees/migrants?			
Yes	127 (22.3%)	120 (22.2%)	7 (23.3%)
No	352 (61.8%)	336 (62.2%)	16 (53.3%)
I am Not Sure	91 (16.0%)	84 (15.6%)	7 (23.3%)
Comments Observed/heard about the COVID-19 vaccination for refugees/migrants			
Request documentation to administer the dose	44 (34.6%)	41 (34.2%)	3 (42.9%)
Only national people have access	26 (20.5%)	26 (21.7%)	0 (0%)
Dangerous for health	19 (3.33%)	18 (3.33%)	1 (3.33%)
Deport people without documentation	12 (9.45%)	11 (9.17%)	1 (14.3%)
Other (<i>No valid documents/CNIC</i>)	7 (1.23%)	7 (1.30%)	0 (0%)
Don't know/don't remember	19 (15.0%)	17 (14.2%)	2 (28.6%)
Funder of vaccination process in the country			
Government	391 (68.6%)	367 (68.0%)	24 (80.0%)
NGOs	25 (4.39%)	25 (4.63%)	0 (0%)
Private company	6 (1.05%)	6 (1.11%)	0 (0%)
Other	1 (0.175%)	1 (0.185%)	0 (0%)
Don't know	158 (27.7%)	152 (28.1%)	6 (20.0%)
Made any payment or contribution to be vaccinated against COVID-19			
Paid to get an appointment	20 (3.51%)	18 (3.33%)	2 (6.67%)
Bought the syringes	1 (0.175%)	1 (0.185%)	0 (0%)
Paid to get a vaccination certificate	8 (1.40%)	8 (1.48%)	0 (0%)
Totally free of charge	289 (50.7%)	271 (50.2%)	18 (60.0%)
I have not been vaccinated	256 (44.9%)	245 (45.4%)	11 (36.7%)
Other	1 (0.175%)	1 (0.185%)	0 (0%)
Received a vaccination card or information on where to find a vaccination card after getting vaccinated			
Yes	286 (91.1%)	268 (90.8%)	18 (94.7%)

	Overall	More than 5 years	Less Than 5 Years
	(N=570)	(N=540)	(N=30)
No	23 (7.32%)	22 (7.46%)	1 (5.26%)
Don't Know / Don't Remember	5 (1.59%)	5 (1.69%)	0 (0%)
Have a vaccination card or certificate			
Yes	262 (83.4%)	245 (83.1%)	17 (89.5%)
No	50 (15.9%)	48 (16.3%)	2 (10.5%)
Don't know	2 (0.637%)	2 (0.678%)	0 (0%)
Place of obtaining the vaccination card or certificate			
Vaccination center	209 (79.8%)	193 (78.8%)	16 (94.1%)
Website	43 (16.4%)	42 (17.1%)	1 (5.88%)
From a different health facility	10 (3.82%)	10 (4.08%)	0 (0%)
Faced any problem acquiring the vaccination card or certificate			
No	240 (91.6%)	224 (91.4%)	16 (94.1%)
System showed an error	18 (6.87%)	17 (6.94%)	1 (5.88%)
Data was not correct	3 (1.15%)	3 (1.22%)	0 (0%)
Other	1 (0.382%)	1 (0.408%)	0 (0%)
Ever been denied access to vaccination because of no identity document			
Yes	18 (5.73%)	16 (5.42%)	2 (10.5%)
No	276 (87.9%)	261 (88.5%)	15 (78.9%)
Don't Know / Don't Remember	20 (6.37%)	18 (6.10%)	2 (10.5%)
A special code was generated in case of unavailability of ID card at the time of vaccination			
Yes	8 (44.4%)	7 (43.8%)	1 (50.0%)
No	5 (27.8%)	5 (31.3%)	0 (0%)
Was not allowed to get vaccinated	3 (16.7%)	2 (12.5%)	1 (50.0%)
Not Applicable	2 (11.1%)	2 (12.5%)	0 (0%)
Vaccination plan implemented in residing country was more accessible to people in mobility compared to other neighboring countries			
Yes	100 (17.5%)	93 (17.2%)	7 (23.3%)
No	111 (19.5%)	105 (19.4%)	6 (20.0%)
Don't know how it was in another country	183 (32.1%)	174 (32.2%)	9 (30.0%)
Don't Know / Don't Remember	176 (30.9%)	168 (31.1%)	8 (26.7%)
Witnessed any kind of discrimination during the vaccination process			
Did not witness any act of discrimination	487 (85.4%)	460 (85.2%)	27 (90.0%)
Yes, to myself	54 (9.47%)	51 (9.44%)	3 (10.0%)
Yes, to a migrant person	18 (3.16%)	18 (3.33%)	0 (0%)
Yes, to the general public	16 (2.81%)	16 (2.96%)	0 (0%)
Act of discrimination was from:			
Health center staff	52 (59.1%)	52 (61.2%)	0 (0%)
Security personnel	29 (33.0%)	26 (30.6%)	3 (100%)
Local population	10 (11.4%)	10 (11.8%)	0 (0%)
Other	3 (3.41%)	3 (3.53%)	0 (0%)
Facilitators of COVID-19 vaccination process			

	Overall	More than 5 years	Less Than 5 Years
	(N=570)	(N=540)	(N=30)
Timely information has been provided	197 (34.6%)	185 (34.3%)	12 (40.0%)
Vaccination centers have been set up in different areas of city	175 (30.7%)	168 (31.1%)	7 (23.3%)
I don't know	244 (42.8%)	233 (43.1%)	11 (36.7%)
None	12 (2.11%)	11 (2.04%)	1 (3.33%)
Perceived any differences in the way of treatment for vaccinations compared to the majority population			
Yes	165 (28.9%)	155 (28.7%)	10 (33.3%)
No	220 (38.6%)	208 (38.5%)	12 (40.0%)
Don't Know / Don't Remember	185 (32.5%)	177 (32.8%)	8 (26.7%)
The national government's campaign was successful in getting migrants to go to vaccination centers			
Yes	241 (42.3%)	223 (41.3%)	18 (60.0%)
No	111 (19.5%)	107 (19.8%)	4 (13.3%)
Don't Know / Don't Remember	218 (38.2%)	210 (38.9%)	8 (26.7%)
Health centers set up at the national level are accessible by the community			
Yes	233 (40.9%)	215 (39.8%)	18 (60.0%)
No	131 (23.0%)	125 (23.1%)	6 (20.0%)
Don't Know / Don't Remember	206 (36.1%)	200 (37.0%)	6 (20.0%)
Time to reach the nearest vaccination center from home			
Between 30 min to 1 hour	279 (48.9%)	266 (49.3%)	13 (43.3%)
Less than 15 min	211 (37.0%)	197 (36.5%)	14 (46.7%)
Between 1 to 2 hours	61 (10.7%)	59 (10.9%)	2 (6.67%)
More than 2 hours	18 (3.16%)	17 (3.15%)	1 (3.33%)
Outside my province	1 (0.175%)	1 (0.185%)	0 (0%)
Vaccination centers hygienic for people			
Yes	295 (51.8%)	277 (51.3%)	18 (60.0%)
No	100 (17.5%)	92 (17.0%)	8 (26.7%)
Don't Know / Don't Remember	175 (30.7%)	171 (31.7%)	4 (13.3%)
National government provided adequate information on the percentage of vaccinated people per region			
Yes	259 (45.4%)	244 (45.2%)	15 (50.0%)
No	104 (18.2%)	99 (18.3%)	5 (16.7%)
Don't Know / Don't Remember	207 (36.3%)	197 (36.5%)	10 (33.3%)
Was there a clear, precise and transparent communication from the national and local government on the situation of COVID 19			
Yes	275 (48.2%)	259 (48.0%)	16 (53.3%)
No	86 (15.1%)	84 (15.6%)	2 (6.67%)
Don't Know / Don't Remember	209 (36.7%)	197 (36.5%)	12 (40.0%)

Supplementary Table 13: COVID-19 vaccination among migrants (by Age)

	Overall	Less than 18	18 - 49	50 - 59	60 or more
	(N=570)	(N=71)	(N=200)	(N=141)	(N=158)
Years of Living					
More than 5 years	540 (94.7%)	65 (91.5%)	187 (93.5%)	134 (95.0%)	154 (97.5%)
Less Than 5 Years	30 (5.26%)	6 (8.45%)	13 (6.50%)	7 (4.96%)	4 (2.53%)
Immigration status					
Regular (with valid documents)	370 (64.9%)	26 (36.6%)	135 (67.5%)	101 (71.6%)	108 (68.4%)
Irregular (no valid documents, pending, expired)	131 (23.0%)	18 (25.4%)	50 (25.0%)	26 (18.4%)	37 (23.4%)
Refugee	69 (12.1%)	27 (38.0%)	15 (7.50%)	14 (9.93%)	13 (8.23%)
Gender					
Female	294 (51.6%)	35 (49.3%)	109 (54.5%)	71 (50.4%)	79 (50.0%)
Male	276 (48.4%)	36 (50.7%)	91 (45.5%)	70 (49.6%)	79 (50.0%)
Age					
Less than 18	71 (12.5%)	71 (100%)	0 (0%)	0 (0%)	0 (0%)
18 – 49	200 (35.1%)	0 (0%)	200 (100%)	0 (0%)	0 (0%)
50 – 59	141 (24.7%)	0 (0%)	0 (0%)	141 (100%)	0 (0%)
60 or more	158 (27.7%)	0 (0%)	0 (0%)	0 (0%)	158 (100%)
Household members					
Spouse/partner	406 (71.2%)	4 (5.63%)	136 (68.0%)	130 (92.2%)	136 (86.1%)
Daughter/Son	441 (77.4%)	5 (7.04%)	145 (72.5%)	138 (97.9%)	153 (96.8%)
Mother/Father	212 (37.2%)	71 (100%)	98 (49.0%)	21 (14.9%)	22 (13.9%)
Sister/Brother	212 (37.2%)	66 (93.0%)	88 (44.0%)	23 (16.3%)	35 (22.2%)
Daughter-in-law/Brother-in-law	131 (23.0%)	1 (1.41%)	21 (10.5%)	52 (36.9%)	57 (36.1%)
Grandchildren	126 (22.1%)	0 (0%)	10 (5.00%)	51 (36.2%)	65 (41.1%)
Mother-in-law/Father-in-law	45 (7.89%)	1 (1.41%)	21 (10.5%)	13 (9.22%)	10 (6.33%)
Grandfather/Grandmother	31 (5.44%)	7 (9.86%)	10 (5.00%)	8 (5.67%)	6 (3.80%)
Non-relative	14 (2.46%)	0 (0%)	4 (2.00%)	9 (6.38%)	1 (0.633%)
Other Relative	9 (1.58%)	4 (5.63%)	5 (2.50%)	0 (0%)	0 (0%)
Minors under responsibility					
Yes, full time	256 (44.9%)	6 (8.45%)	119 (59.5%)	67 (47.5%)	64 (40.5%)
Yes, part-time	61 (10.7%)	4 (5.63%)	13 (6.50%)	20 (14.2%)	24 (15.2%)
No	236 (41.4%)	51 (71.8%)	63 (31.5%)	54 (38.3%)	68 (43.0%)
Don't know/don't remember	17 (2.98%)	10 (14.1%)	5 (2.50%)	0 (0%)	2 (1.27%)
Education					
Formal education not completed	415 (72.8%)	38 (53.5%)	117 (58.5%)	119 (84.4%)	141 (89.2%)
Primary education	81 (14.2%)	23 (32.4%)	34 (17.0%)	15 (10.6%)	9 (5.70%)
Secondary/Above	60 (10.5%)	7 (9.86%)	45 (22.5%)	4 (2.84%)	4 (2.53%)
I prefer not to say	14 (2.46%)	3 (4.23%)	4 (2.00%)	3 (2.13%)	4 (2.53%)
Participants at risk of COVID-19					
Do not belong to any risk group	351 (61.6%)	70 (98.6%)	181 (90.5%)	100 (70.9%)	0 (0%)
60 years or older	124 (21.8%)	0 (0%)	1 (0.500%)	2 (1.42%)	121 (76.6%)
Heart disease or high blood pressure	54 (9.47%)	0 (0%)	11 (5.50%)	27 (19.1%)	16 (10.1%)
Diabetes	19 (3.33%)	0 (0%)	1 (0.500%)	6 (4.26%)	12 (7.59%)

	Overall	Less than 18	18 - 49	50 - 59	60 or more
	(N=570)	(N=71)	(N=200)	(N=141)	(N=158)
Chronic lung diseases	8 (1.40%)	0 (0%)	3 (1.50%)	2 (1.42%)	3 (1.90%)
Obesity	8 (1.40%)	0 (0%)	1 (0.500%)	4 (2.84%)	3 (1.90%)
Weak immune system (including cancer, HIV)	6 (1.05%)	1 (1.41%)	2 (1.00%)	0 (0%)	3 (1.90%)
Infected with COVID-19					
Yes	26 (4.56%)	1 (1.41%)	13 (6.50%)	3 (2.13%)	9 (5.70%)
No	459 (80.5%)	39 (54.9%)	163 (81.5%)	119 (84.4%)	138 (87.3%)
Don't Know	85 (14.9%)	31 (43.7%)	24 (12.0%)	19 (13.5%)	11 (6.96%)
Had access to the COVID-19 vaccination before getting infected					
Yes	19 (73.1%)	1 (100%)	11 (84.6%)	2 (66.7%)	5 (55.6%)
No	3 (11.5%)	0 (0%)	0 (0%)	1 (33.3%)	2 (22.2%)
Don't Know	4 (15.4%)	0 (0%)	2 (15.4%)	0 (0%)	2 (22.2%)
Reason of not getting vaccinated					
Rejected because he/she was a foreigner	3 (42.9%)	NA	0 (0%)	1 (100%)	2 (50.0%)
Vaccination had not started in the country	3 (42.9%)	NA	2 (100%)	0 (0%)	1 (25.0%)
Not willing to get the vaccine	1 (14.3%)	NA	0 (0%)	0 (0%)	1 (25.0%)
COVID-19 confirmed by a test					
Yes	7 (26.9%)	0 (0%)	3 (23.1%)	1 (33.3%)	3 (33.3%)
No	17 (65.4%)	1 (100%)	10 (76.9%)	2 (66.7%)	4 (44.4%)
Don't Know	2 (7.69%)	0 (0%)	0 (0%)	0 (0%)	2 (22.2%)
Hospitalization					
Yes	1 (3.85%)	0 (0%)	0 (0%)	0 (0%)	1 (11.1%)
No	23 (88.5%)	1 (100%)	13 (100%)	3 (100%)	6 (66.7%)
Don't Know	2 (7.69%)	0 (0%)	0 (0%)	0 (0%)	2 (22.2%)
Measures taken to avoid the spread of the coronavirus					
Washed hands / used disinfectants more often	383 (70.4%)	54 (77.1%)	145 (77.5%)	97 (70.3%)	87 (58.4%)
Generally, more careful with washing and cleaning	307 (56.4%)	35 (50.0%)	123 (65.8%)	73 (52.9%)	76 (51.0%)
Used protective equipment such as a face mask	209 (38.4%)	23 (32.9%)	96 (51.3%)	36 (26.1%)	54 (36.2%)
Kept at least one meter away from other persons	139 (25.6%)	14 (20.0%)	62 (33.2%)	25 (18.1%)	38 (25.5%)
Kept away from crowds	137 (25.2%)	14 (20.0%)	47 (25.1%)	35 (25.4%)	41 (27.5%)
Avoided public gatherings	117 (21.5%)	9 (12.9%)	38 (20.3%)	39 (28.3%)	31 (20.8%)
Canceled or postponed travels	56 (10.3%)	2 (2.86%)	28 (15.0%)	10 (7.25%)	16 (10.7%)
Used less public transportation	49 (9.01%)	6 (8.57%)	20 (10.7%)	10 (7.25%)	13 (8.72%)
Worked from home (had home office) more often than usual	35 (6.43%)	0 (0%)	24 (12.8%)	7 (5.07%)	4 (2.68%)
No, not done any of the above	20 (3.68%)	4 (5.71%)	6 (3.21%)	4 (2.90%)	6 (4.03%)
Offered COVID-19 vaccine					
Yes	376 (66.0%)	28 (39.4%)	146 (73.0%)	100 (70.9%)	102 (64.6%)
No	163 (28.6%)	29 (40.8%)	49 (24.5%)	37 (26.2%)	48 (30.4%)
Don't Know	31 (5.44%)	14 (19.7%)	5 (2.50%)	4 (2.84%)	8 (5.06%)
Plan to get vaccinated against COVID-19					
Yes	66 (34.0%)	18 (41.9%)	16 (29.6%)	10 (24.4%)	22 (39.3%)
No	115 (59.3%)	23 (53.5%)	34 (63.0%)	31 (75.6%)	27 (48.2%)

	Overall	Less than 18	18 - 49	50 - 59	60 or more
	(N=570)	(N=71)	(N=200)	(N=141)	(N=158)
Don't Know	13 (6.70%)	2 (4.65%)	4 (7.41%)	0 (0%)	7 (12.5%)
Reasons of not taking COVID-19 vaccine					
Risk of adverse reactions to COVID-19 vaccines	64 (50.0%)	10 (40.0%)	13 (34.2%)	24 (77.4%)	17 (50.0%)
CNIC Not Available	11 (8.59%)	2 (8.00%)	5 (13.2%)	1 (3.23%)	3 (8.82%)
Afraid of/do not like doctors/syringes	11 (8.59%)	5 (20.0%)	4 (10.5%)	1 (3.23%)	1 (2.94%)
Not comfortable with the new COVID-19 vaccine	10 (7.81%)	3 (12.0%)	4 (10.5%)	2 (6.45%)	1 (2.94%)
Permission Problem	9 (7.03%)	5 (20.0%)	2 (5.26%)	0 (0%)	2 (5.88%)
COVID-19 vaccines does not work	8 (6.25%)	2 (8.00%)	2 (5.26%)	2 (6.45%)	2 (5.88%)
Adverse reactions to previous vaccines (others than the COVID-19 vaccine)	7 (5.47%)	2 (8.00%)	4 (10.5%)	1 (3.23%)	0 (0%)
Do not feel the need to protect myself	6 (4.69%)	1 (4.00%)	2 (5.26%)	1 (3.23%)	2 (5.88%)
There is too little experience with the use of the vaccine	6 (4.69%)	0 (0%)	3 (7.89%)	3 (9.68%)	0 (0%)
There is not much COVID-19 infection in the community	4 (3.13%)	0 (0%)	1 (2.63%)	1 (3.23%)	2 (5.88%)
Lack of Knowledge	4 (3.13%)	3 (12.0%)	1 (2.63%)	0 (0%)	0 (0%)
I don't need the vaccine: rarely/never sick, I don't belong to the priority group	3 (2.34%)	0 (0%)	2 (5.26%)	1 (3.23%)	0 (0%)
Want the body to develop natural immunity	3 (2.34%)	0 (0%)	3 (7.89%)	0 (0%)	0 (0%)
Do not trust the recommendation from the health authorities/municipality	3 (2.34%)	0 (0%)	3 (7.89%)	0 (0%)	0 (0%)
Others	2 (1.56%)	0 (0%)	0 (0%)	2 (6.45%)	0 (0%)
I do not need to protect my family/community	2 (1.56%)	0 (0%)	2 (5.26%)	0 (0%)	0 (0%)
Information from the media	1 (0.781%)	0 (0%)	0 (0%)	1 (3.23%)	0 (0%)
Political reasons (antigovernment feelings)	1 (0.781%)	0 (0%)	1 (2.63%)	0 (0%)	0 (0%)
Received the full doses of the COVID-19 vaccine					
Yes	248 (66.0%)	12 (42.9%)	92 (63.0%)	69 (69.0%)	75 (73.5%)
Partially	66 (17.6%)	3 (10.7%)	30 (20.5%)	16 (16.0%)	17 (16.7%)
No	54 (14.4%)	10 (35.7%)	21 (14.4%)	14 (14.0%)	9 (8.82%)
Don't Know	8 (2.13%)	3 (10.7%)	3 (2.05%)	1 (1.00%)	1 (0.980%)
Doses received					
One	103 (32.8%)	4 (26.7%)	52 (42.6%)	22 (25.9%)	25 (27.2%)
Two	199 (63.4%)	11 (73.3%)	68 (55.7%)	59 (69.4%)	61 (66.3%)
Three	12 (3.82%)	0 (0%)	2 (1.64%)	4 (4.71%)	6 (6.52%)
Month of receiving the first dose of the COVID-19 vaccine					
JAN – MAR	148 (47.1%)	15 (100%)	64 (52.5%)	40 (47.1%)	29 (31.5%)
APR – JUN	22 (7.01%)	0 (0%)	8 (6.56%)	6 (7.06%)	8 (8.70%)
JUL – SEP	68 (21.7%)	0 (0%)	29 (23.8%)	18 (21.2%)	21 (22.8%)
OCT – DEC	35 (11.1%)	0 (0%)	6 (4.92%)	11 (12.9%)	18 (19.6%)
Don't Know / Don't Remember	41 (13.1%)	0 (0%)	15 (12.3%)	10 (11.8%)	16 (17.4%)
Year of receiving the first dose of the COVID-19 vaccine					
2020	4 (1.27%)	0 (0%)	3 (2.46%)	1 (1.18%)	0 (0%)
2021	186 (59.2%)	0 (0%)	68 (55.7%)	51 (60.0%)	67 (72.8%)
2022	124 (39.5%)	15 (100%)	51 (41.8%)	33 (38.8%)	25 (27.2%)
Vaccine brand of first dose					

	Overall	Less than 18	18 - 49	50 - 59	60 or more
	(N=570)	(N=71)	(N=200)	(N=141)	(N=158)
Sinovac	65 (20.7%)	5 (33.3%)	21 (17.2%)	22 (25.9%)	17 (18.5%)
Pfizer	63 (20.1%)	7 (46.7%)	22 (18.0%)	16 (18.8%)	18 (19.6%)
Moderna	40 (12.7%)	0 (0%)	15 (12.3%)	13 (15.3%)	12 (13.0%)
CanSino	33 (10.5%)	1 (6.67%)	19 (15.6%)	5 (5.88%)	8 (8.70%)
Sinopharm	27 (8.60%)	1 (6.67%)	7 (5.74%)	8 (9.41%)	11 (12.0%)
AstraZeneca	4 (1.27%)	1 (6.67%)	0 (0%)	3 (3.53%)	0 (0%)
Pak vaccine	3 (0.955%)	0 (0%)	2 (1.64%)	1 (1.18%)	0 (0%)
Johnson & Johnson	1 (0.318%)	0 (0%)	0 (0%)	0 (0%)	1 (1.09%)
Don't Know / Don't Remember	78 (24.8%)	0 (0%)	36 (29.5%)	17 (20.0%)	25 (27.2%)
Month of receiving the second dose of the COVID-19 vaccine					
JAN – MAR	78 (27.9%)	11 (78.6%)	33 (32.0%)	21 (26.3%)	13 (15.7%)
APR – JUN	27 (9.64%)	0 (0%)	5 (4.85%)	8 (10.0%)	14 (16.9%)
JUL – SEP	35 (12.5%)	0 (0%)	10 (9.71%)	12 (15.0%)	13 (15.7%)
OCT – DEC	43 (15.4%)	0 (0%)	11 (10.7%)	15 (18.8%)	17 (20.5%)
Un-Vaccinated	69 (24.6%)	3 (21.4%)	33 (32.0%)	17 (21.3%)	16 (19.3%)
Don't Remember	28 (10.0%)	0 (0%)	11 (10.7%)	7 (8.75%)	10 (12.0%)
Year of receiving the second dose of the COVID-19 vaccine					
2021	116 (55.0%)	0 (0%)	33 (47.1%)	40 (63.5%)	43 (64.2%)
2022	95 (45.0%)	11 (100%)	37 (52.9%)	23 (36.5%)	24 (35.8%)
Vaccine brand of second dose					
Pfizer	60 (28.4%)	7 (63.6%)	19 (27.1%)	17 (27.0%)	17 (25.4%)
Sinovac	52 (24.6%)	2 (18.2%)	15 (21.4%)	21 (33.3%)	14 (20.9%)
Moderna	34 (16.1%)	0 (0%)	14 (20.0%)	10 (15.9%)	10 (14.9%)
Sinopharm	21 (9.95%)	1 (9.09%)	6 (8.57%)	3 (4.76%)	11 (16.4%)
AstraZeneca	3 (1.42%)	1 (9.09%)	0 (0%)	2 (3.17%)	0 (0%)
Covaxin	1 (0.474%)	0 (0%)	0 (0%)	1 (1.59%)	0 (0%)
Sputnik V	1 (0.474%)	0 (0%)	0 (0%)	1 (1.59%)	0 (0%)
Don't Know / Don't Remember	39 (18.5%)	0 (0%)	16 (22.9%)	8 (12.7%)	15 (22.4%)
Month of receiving the booster dose					
JAN – MAR	8 (3.27%)	0 (0%)	0 (0%)	3 (4.41%)	5 (6.58%)
APR – JUN	2 (0.816%)	0 (0%)	2 (2.25%)	0 (0%)	0 (0%)
Un-Vaccinated	233 (95.1%)	12 (100%)	87 (97.8%)	64 (94.1%)	70 (92.1%)
Don't Know / Don't Remember	2 (0.816%)	0 (0%)	0 (0%)	1 (1.47%)	1 (1.32%)
Year of receiving the booster dose					
2022	10 (83.3%)	NA	2 (100%)	3 (75.0%)	5 (83.3%)
2021	2 (16.7%)	NA	0 (0%)	1 (25.0%)	1 (16.7%)
Vaccine brand of booster dose					
Pfizer	3 (25.0%)	NA	1 (50.0%)	1 (25.0%)	1 (16.7%)
Moderna	3 (25.0%)	NA	1 (50.0%)	1 (25.0%)	1 (16.7%)
CanSino	2 (16.7%)	NA	0 (0%)	1 (25.0%)	1 (16.7%)
Sinovac	1 (8.33%)	NA	0 (0%)	0 (0%)	1 (16.7%)

	Overall	Less than 18	18 - 49	50 - 59	60 or more
	(N=570)	(N=71)	(N=200)	(N=141)	(N=158)
Sinopharm	1 (8.33%)	NA	0 (0%)	0 (0%)	1 (16.7%)
Don't Know / Don't Remember	2 (16.7%)	NA	0 (0%)	1 (25.0%)	1 (16.7%)
Experienced any side effect after vaccination					
Yes	5 (41.7%)	NA	1 (50.0%)	2 (50.0%)	2 (33.3%)
No	6 (50.0%)	NA	1 (50.0%)	2 (50.0%)	3 (50.0%)
Don't Know	1 (8.33%)	NA	0 (0%)	0 (0%)	1 (16.7%)
Type of side effects experienced					
Fever	5 (100%)	NA	1 (100%)	2 (100%)	2 (100%)
The vaccine is highly reliable					
Agree	33 (44.6%)	3 (23.1%)	11 (42.3%)	9 (47.4%)	10 (62.5%)
Disagree	24 (32.4%)	6 (46.2%)	7 (26.9%)	8 (42.1%)	3 (18.8%)
Neither agree nor disagree	10 (13.5%)	3 (23.1%)	4 (15.4%)	1 (5.26%)	2 (12.5%)
Strongly agree	5 (6.76%)	1 (7.69%)	2 (7.69%)	1 (5.26%)	1 (6.25%)
Strongly disagree	2 (2.70%)	0 (0%)	2 (7.69%)	0 (0%)	0 (0%)
The vaccine is a government requirement					
Agree	31 (41.9%)	4 (30.8%)	11 (42.3%)	8 (42.1%)	8 (50.0%)
Disagree	18 (24.3%)	4 (30.8%)	4 (15.4%)	6 (31.6%)	4 (25.0%)
Neither agree nor disagree	17 (23.0%)	3 (23.1%)	6 (23.1%)	4 (21.1%)	4 (25.0%)
Strongly agree	4 (5.41%)	1 (7.69%)	2 (7.69%)	1 (5.26%)	0 (0%)
Strongly disagree	4 (5.41%)	1 (7.69%)	3 (11.5%)	0 (0%)	0 (0%)
The vaccine protects my family, friends and community					
Agree	28 (37.8%)	2 (15.4%)	10 (38.5%)	7 (36.8%)	9 (56.3%)
Neither agree nor disagree	21 (28.4%)	5 (38.5%)	7 (26.9%)	5 (26.3%)	4 (25.0%)
Disagree	21 (28.4%)	5 (38.5%)	7 (26.9%)	6 (31.6%)	3 (18.8%)
Strongly agree	2 (2.70%)	1 (7.69%)	0 (0%)	1 (5.26%)	0 (0%)
Strongly disagree	2 (2.70%)	0 (0%)	2 (7.69%)	0 (0%)	0 (0%)
The vaccine is a requirement to enter establishments					
Disagree	25 (33.8%)	7 (53.8%)	8 (30.8%)	7 (36.8%)	3 (18.8%)
Agree	23 (31.1%)	2 (15.4%)	9 (34.6%)	3 (15.8%)	9 (56.3%)
Neither agree nor disagree	20 (27.0%)	3 (23.1%)	5 (19.2%)	8 (42.1%)	4 (25.0%)
Strongly agree	4 (5.41%)	1 (7.69%)	2 (7.69%)	1 (5.26%)	0 (0%)
Strongly disagree	2 (2.70%)	0 (0%)	2 (7.69%)	0 (0%)	0 (0%)
Getting vaccinated is my duty					
Disagree	29 (39.2%)	8 (61.5%)	11 (42.3%)	5 (26.3%)	5 (31.3%)
Neither agree nor disagree	19 (25.7%)	3 (23.1%)	5 (19.2%)	6 (31.6%)	5 (31.3%)
Agree	17 (23.0%)	1 (7.69%)	7 (26.9%)	5 (26.3%)	4 (25.0%)
Strongly disagree	5 (6.76%)	0 (0%)	2 (7.69%)	2 (10.5%)	1 (6.25%)
Strongly agree	4 (5.41%)	1 (7.69%)	1 (3.85%)	1 (5.26%)	1 (6.25%)
I get vaccinated because its safe					
Agree	29 (39.2%)	1 (7.69%)	10 (38.5%)	8 (42.1%)	10 (62.5%)
Disagree	21 (28.4%)	6 (46.2%)	8 (30.8%)	6 (31.6%)	1 (6.25%)

	Overall	Less than 18	18 - 49	50 - 59	60 or more
	(N=570)	(N=71)	(N=200)	(N=141)	(N=158)
Neither agree nor disagree	17 (23.0%)	5 (38.5%)	5 (19.2%)	4 (21.1%)	3 (18.8%)
Strongly agree	4 (5.41%)	1 (7.69%)	1 (3.85%)	1 (5.26%)	1 (6.25%)
Strongly disagree	3 (4.05%)	0 (0%)	2 (7.69%)	0 (0%)	1 (6.25%)
I would not like to get vaccinated, but I get vaccinated because I am forced					
Disagree	29 (39.2%)	8 (61.5%)	12 (46.2%)	5 (26.3%)	4 (25.0%)
Neither agree nor disagree	19 (25.7%)	3 (23.1%)	5 (19.2%)	6 (31.6%)	5 (31.3%)
Agree	16 (21.6%)	0 (0%)	5 (19.2%)	5 (26.3%)	6 (37.5%)
Strongly disagree	7 (9.46%)	1 (7.69%)	4 (15.4%)	1 (5.26%)	1 (6.25%)
Strongly agree	3 (4.05%)	1 (7.69%)	0 (0%)	2 (10.5%)	0 (0%)
Concerned about COVID-19 vaccine serious side effects					
Very concerned	96 (16.8%)	19 (26.8%)	34 (17.0%)	30 (21.3%)	13 (8.23%)
Moderately concerned	69 (12.1%)	12 (16.9%)	27 (13.5%)	10 (7.09%)	20 (12.7%)
A little concerned	270 (47.4%)	32 (45.1%)	86 (43.0%)	65 (46.1%)	87 (55.1%)
Not at all concerned	135 (23.7%)	8 (11.3%)	53 (26.5%)	36 (25.5%)	38 (24.1%)
Willingness to get a COVID-19 vaccine					
Very much	53 (9.30%)	2 (2.82%)	28 (14.0%)	14 (9.93%)	9 (5.70%)
Moderately	131 (23.0%)	14 (19.7%)	51 (25.5%)	27 (19.1%)	39 (24.7%)
A little	318 (55.8%)	43 (60.6%)	94 (47.0%)	88 (62.4%)	93 (58.9%)
Not at all	68 (11.9%)	12 (16.9%)	27 (13.5%)	12 (8.51%)	17 (10.8%)
Preferred Location of getting COVID-19 vaccine					
Hospital	424 (74.4%)	34 (47.9%)	151 (75.5%)	116 (82.3%)	123 (77.8%)
Health Center/Clinic	132 (23.2%)	12 (16.9%)	40 (20.0%)	44 (31.2%)	36 (22.8%)
Workplace	28 (4.91%)	4 (5.63%)	11 (5.50%)	6 (4.26%)	7 (4.43%)
Pharmacy	7 (1.23%)	0 (0%)	4 (2.00%)	2 (1.42%)	1 (0.633%)
Community center, meeting room, local store	16 (2.81%)	1 (1.41%)	8 (4.00%)	4 (2.84%)	3 (1.90%)
University	1 (0.175%)	1 (1.41%)	0 (0%)	0 (0%)	0 (0%)
Shopping Center	4 (0.702%)	2 (2.82%)	2 (1.00%)	0 (0%)	0 (0%)
School near the place of residence	71 (12.5%)	20 (28.2%)	24 (12.0%)	16 (11.3%)	11 (6.96%)
Residential Area	30 (5.26%)	9 (12.7%)	5 (2.50%)	5 (3.55%)	11 (6.96%)
I don't want to get vaccinated	36 (6.32%)	9 (12.7%)	15 (7.50%)	7 (4.96%)	5 (3.16%)
Other	1 (0.175%)	1 (1.41%)	0 (0%)	0 (0%)	0 (0%)
Final say on getting COVID-19 vaccine (from family)					
Participant, itself	359 (63.0%)	7 (9.86%)	126 (63.0%)	111 (78.7%)	115 (72.8%)
Spouse/partner	79 (13.9%)	1 (1.41%)	35 (17.5%)	25 (17.7%)	18 (11.4%)
Father	66 (11.6%)	49 (69.0%)	17 (8.50%)	0 (0%)	0 (0%)
Mother	31 (5.44%)	11 (15.5%)	19 (9.50%)	1 (0.709%)	0 (0%)
His/her child	30 (5.26%)	1 (1.41%)	0 (0%)	4 (2.84%)	25 (15.8%)
Someone else	5 (0.877%)	2 (2.82%)	3 (1.50%)	0 (0%)	0 (0%)
Family and close friends willing to get a COVID-19 vaccine					
Yes	303 (53.2%)	23 (32.4%)	121 (60.5%)	68 (48.2%)	91 (57.6%)
No	104 (18.2%)	17 (23.9%)	34 (17.0%)	26 (18.4%)	27 (17.1%)

	Overall	Less than 18	18 - 49	50 - 59	60 or more
	(N=570)	(N=71)	(N=200)	(N=141)	(N=158)
Don't Know	163 (28.6%)	31 (43.7%)	45 (22.5%)	47 (33.3%)	40 (25.3%)
Trust on healthcare providers giving COVID-19 vaccine					
Very much	68 (11.9%)	5 (7.04%)	29 (14.5%)	23 (16.3%)	11 (6.96%)
Moderately	107 (18.8%)	17 (23.9%)	48 (24.0%)	18 (12.8%)	24 (15.2%)
A little	294 (51.6%)	38 (53.5%)	87 (43.5%)	71 (50.4%)	98 (62.0%)
Not at all	101 (17.7%)	11 (15.5%)	36 (18.0%)	29 (20.6%)	25 (15.8%)
Main difficulties for the population to NOT get the COVID-19 vaccine					
Nothing. It is not difficult	259 (45.4%)	22 (31.0%)	100 (50.0%)	67 (47.5%)	70 (44.3%)
The vaccination site is too far away	70 (12.3%)	9 (12.7%)	25 (12.5%)	11 (7.80%)	25 (15.8%)
The COVID-19 vaccine is not available for a given group	50 (8.77%)	2 (2.82%)	14 (7.00%)	8 (5.67%)	26 (16.5%)
They can't go on their own (they have physical limitation)	60 (10.5%)	3 (4.23%)	20 (10.0%)	22 (15.6%)	15 (9.49%)
It is difficult to register for vaccination	50 (8.77%)	4 (5.63%)	19 (9.50%)	15 (10.6%)	12 (7.59%)
They do not have the internet or a smartphone to register for vaccination	35 (6.14%)	6 (8.45%)	17 (8.50%)	4 (2.84%)	8 (5.06%)
The waiting time is too long	32 (5.61%)	1 (1.41%)	14 (7.00%)	9 (6.38%)	8 (5.06%)
Don't have valid documents/CNIC	31 (5.44%)	1 (1.41%)	9 (4.50%)	7 (4.96%)	14 (8.86%)
People are turned away without vaccination	29 (5.09%)	2 (2.82%)	14 (7.00%)	6 (4.26%)	7 (4.43%)
Opening hours are inconvenient	26 (4.56%)	2 (2.82%)	7 (3.50%)	7 (4.96%)	10 (6.33%)
Vaccination costs too much	24 (4.21%)	0 (0%)	10 (5.00%)	2 (1.42%)	12 (7.59%)
No permission from male members of family	18 (3.16%)	3 (4.23%)	1 (0.500%)	5 (3.55%)	9 (5.70%)
Misconception spread by peoples	16 (2.81%)	6 (8.45%)	7 (3.50%)	2 (1.42%)	1 (0.633%)
No awareness about vaccines	9 (1.58%)	0 (0%)	1 (0.500%)	1 (0.709%)	7 (4.43%)
Others	62 (10.9%)	20 (28.2%)	15 (7.50%)	18 (12.8%)	9 (5.70%)
Main source of information about the COVID-19 vaccination process					
Local newspapers, radio and/or television channels	334 (58.6%)	24 (33.8%)	134 (67.0%)	83 (58.9%)	93 (58.9%)
Foreign newspapers, radio and/or television channels	164 (28.8%)	12 (16.9%)	56 (28.0%)	38 (27.0%)	58 (36.7%)
Family and/or social network in your home country	139 (24.4%)	20 (28.2%)	38 (19.0%)	39 (27.7%)	42 (26.6%)
Social media	101 (17.7%)	19 (26.8%)	54 (27.0%)	15 (10.6%)	13 (8.23%)
Family or social network in country you are currently living	88 (15.4%)	6 (8.45%)	29 (14.5%)	30 (21.3%)	23 (14.6%)
Local authorities' statements	83 (14.6%)	9 (12.7%)	33 (16.5%)	16 (11.3%)	25 (15.8%)
Camp staff	82 (14.4%)	11 (15.5%)	32 (16.0%)	17 (12.1%)	22 (13.9%)
At your workplace	62 (10.9%)	1 (1.41%)	32 (16.0%)	17 (12.1%)	12 (7.59%)
Brochures	49 (8.60%)	8 (11.3%)	25 (12.5%)	8 (5.67%)	8 (5.06%)
Local government websites	43 (7.54%)	5 (7.04%)	16 (8.00%)	10 (7.09%)	12 (7.59%)
Internet and/or social networks	21 (3.68%)	3 (4.23%)	11 (5.50%)	5 (3.55%)	2 (1.27%)
NGO's	19 (3.33%)	1 (1.41%)	12 (6.00%)	4 (2.84%)	2 (1.27%)
I have not received information about COVID-19 vaccination	6 (1.05%)	0 (0%)	1 (0.500%)	4 (2.84%)	1 (0.633%)
School Teacher	4 (0.702%)	4 (5.63%)	0 (0%)	0 (0%)	0 (0%)
Others	4 (0.702%)	1 (1.41%)	3 (1.50%)	0 (0%)	0 (0%)
Know about types of vaccines (brands) available for COVID-19					

	Overall	Less than 18	18 - 49	50 - 59	60 or more
	(N=570)	(N=71)	(N=200)	(N=141)	(N=158)
Yes	115 (20.2%)	3 (4.23%)	47 (23.5%)	31 (22.0%)	34 (21.5%)
No	324 (56.8%)	35 (49.3%)	115 (57.5%)	79 (56.0%)	95 (60.1%)
I am Not Sure	131 (23.0%)	33 (46.5%)	38 (19.0%)	31 (22.0%)	29 (18.4%)
Know about place of getting COVID-19 vaccination					
Yes	323 (56.7%)	20 (28.2%)	135 (67.5%)	79 (56.0%)	89 (56.3%)
No	136 (23.9%)	16 (22.5%)	48 (24.0%)	40 (28.4%)	32 (20.3%)
I am Not Sure	111 (19.5%)	35 (49.3%)	17 (8.50%)	22 (15.6%)	37 (23.4%)
Place of getting COVID-19 vaccine					
Hospital	291 (90.1%)	19 (95.0%)	123 (91.1%)	70 (88.6%)	79 (88.8%)
Health Center/Clinic	93 (28.8%)	4 (20.0%)	38 (28.1%)	22 (27.8%)	29 (32.6%)
Workplace	19 (5.88%)	1 (5.00%)	11 (8.15%)	5 (6.33%)	2 (2.25%)
Community center, meeting room, or local store	15 (4.64%)	1 (5.00%)	6 (4.44%)	5 (6.33%)	3 (3.37%)
Pharmacy	5 (1.55%)	1 (5.00%)	1 (0.741%)	2 (2.53%)	1 (1.12%)
Shopping Center	4 (1.24%)	0 (0%)	3 (2.22%)	1 (1.27%)	0 (0%)
School	3 (0.929%)	0 (0%)	1 (0.741%)	2 (2.53%)	0 (0%)
University	2 (0.619%)	0 (0%)	2 (1.48%)	0 (0%)	0 (0%)
Other	3 (0.929%)	1 (5.00%)	1 (0.741%)	0 (0%)	1 (1.12%)
I don't want to get vaccinated	16 (4.95%)	0 (0%)	11 (8.15%)	4 (5.06%)	1 (1.12%)
Have you observed/heard any comment about the COVID-19 vaccination for refugees/migrants?					
Yes	127 (22.3%)	11 (15.5%)	51 (25.5%)	24 (17.0%)	41 (25.9%)
No	352 (61.8%)	39 (54.9%)	127 (63.5%)	88 (62.4%)	98 (62.0%)
I am Not Sure	91 (16.0%)	21 (29.6%)	22 (11.0%)	29 (20.6%)	19 (12.0%)
Comments Observed/heard about the COVID-19 vaccination for refugees/migrants					
Request documentation to administer the dose	44 (34.6%)	1 (9.09%)	19 (37.3%)	11 (45.8%)	13 (31.7%)
Only national people have access	26 (20.5%)	0 (0%)	7 (13.7%)	4 (16.7%)	15 (36.6%)
Dangerous for health	19 (3.33%)	10 (14.1%)	7 (3.50%)	0 (0%)	2 (1.27%)
Deport people without documentation	12 (9.45%)	0 (0%)	4 (7.84%)	2 (8.33%)	6 (14.6%)
Other (<i>No valid documents/CNIC</i>)	7 (1.23%)	0 (0%)	3 (1.50%)	3 (2.13%)	1 (0.633%)
Don't know/don't remember	19 (15.0%)	0 (0%)	11 (21.6%)	4 (16.7%)	4 (9.76%)
Funder of vaccination process in the country					
Government	391 (68.6%)	33 (46.5%)	146 (73.0%)	103 (73.0%)	109 (69.0%)
NGOs	25 (4.39%)	2 (2.82%)	8 (4.00%)	6 (4.26%)	9 (5.70%)
Private company	6 (1.05%)	2 (2.82%)	0 (0%)	1 (0.709%)	3 (1.90%)
Other	1 (0.175%)	1 (1.41%)	0 (0%)	0 (0%)	0 (0%)
Don't know	158 (27.7%)	35 (49.3%)	49 (24.5%)	32 (22.7%)	42 (26.6%)
Made any payment or contribution to be vaccinated against COVID-19					
Paid to get an appointment	20 (3.51%)	1 (1.41%)	5 (2.50%)	7 (4.96%)	7 (4.43%)
Bought the syringes	1 (0.175%)	0 (0%)	0 (0%)	1 (0.709%)	0 (0%)
Paid to get a vaccination certificate	8 (1.40%)	0 (0%)	5 (2.50%)	3 (2.13%)	0 (0%)
Totally free of charge	289 (50.7%)	14 (19.7%)	115 (57.5%)	74 (52.5%)	86 (54.4%)
I have not been vaccinated	256 (44.9%)	56 (78.9%)	78 (39.0%)	56 (39.7%)	66 (41.8%)

	Overall	Less than 18	18 - 49	50 - 59	60 or more
	(N=570)	(N=71)	(N=200)	(N=141)	(N=158)
Other	1 (0.175%)	0 (0%)	1 (0.500%)	0 (0%)	0 (0%)
Received a vaccination card or information on where to find a vaccination card after getting vaccinated					
Yes	286 (91.1%)	8 (53.3%)	116 (95.1%)	79 (92.9%)	83 (90.2%)
No	23 (7.32%)	5 (33.3%)	5 (4.10%)	6 (7.06%)	7 (7.61%)
Don't Know / Don't Remember	5 (1.59%)	2 (13.3%)	1 (0.820%)	0 (0%)	2 (2.17%)
Have a vaccination card or certificate					
Yes	262 (83.4%)	3 (20.0%)	116 (95.1%)	72 (84.7%)	71 (77.2%)
No	50 (15.9%)	11 (73.3%)	5 (4.10%)	13 (15.3%)	21 (22.8%)
Don't know	2 (0.637%)	1 (6.67%)	1 (0.820%)	0 (0%)	0 (0%)
Place of obtaining the vaccination card or certificate					
Vaccination center	209 (79.8%)	3 (100%)	91 (78.4%)	60 (83.3%)	55 (77.5%)
Website	43 (16.4%)	0 (0%)	18 (15.5%)	9 (12.5%)	16 (22.5%)
From a different health facility	10 (3.82%)	0 (0%)	7 (6.03%)	3 (4.17%)	0 (0%)
Faced any problem acquiring the vaccination card or certificate					
No	240 (91.6%)	3 (100%)	107 (92.2%)	66 (91.7%)	64 (90.1%)
System showed an error	18 (6.87%)	0 (0%)	7 (6.03%)	5 (6.94%)	6 (8.45%)
Data was not correct	3 (1.15%)	0 (0%)	1 (0.862%)	1 (1.39%)	1 (1.41%)
Other	1 (0.382%)	0 (0%)	1 (0.862%)	0 (0%)	0 (0%)
Ever been denied access to vaccination because of no identity document					
Yes	18 (5.73%)	0 (0%)	5 (4.10%)	4 (4.71%)	9 (9.78%)
No	276 (87.9%)	14 (93.3%)	102 (83.6%)	80 (94.1%)	80 (87.0%)
Don't Know / Don't Remember	20 (6.37%)	1 (6.67%)	15 (12.3%)	1 (1.18%)	3 (3.26%)
A special code was generated in case of unavailability of ID card at the time of vaccination					
Yes	8 (44.4%)	NA	2 (40.0%)	2 (50.0%)	4 (44.4%)
No	5 (27.8%)	NA	1 (20.0%)	1 (25.0%)	3 (33.3%)
Was not allowed to get vaccinated	3 (16.7%)	NA	1 (20.0%)	1 (25.0%)	1 (11.1%)
Not Applicable	2 (11.1%)	NA	1 (20.0%)	0 (0%)	1 (11.1%)
Vaccination plan implemented in residing country was more accessible to people in mobility compared to other neighboring countries					
Yes	100 (17.5%)	3 (4.23%)	34 (17.0%)	32 (22.7%)	31 (19.6%)
No	111 (19.5%)	6 (8.45%)	47 (23.5%)	24 (17.0%)	34 (21.5%)
Don't know how it was in another country	183 (32.1%)	20 (28.2%)	54 (27.0%)	58 (41.1%)	51 (32.3%)
Don't Know / Don't Remember	176 (30.9%)	42 (59.2%)	65 (32.5%)	27 (19.1%)	42 (26.6%)
Witnessed any kind of discrimination during the vaccination process					
Did not witness any act of discrimination	487 (85.4%)	67 (94.4%)	174 (87.0%)	116 (82.3%)	130 (82.3%)
Yes, to myself	54 (9.47%)	1 (1.41%)	17 (8.50%)	17 (12.1%)	19 (12.0%)
Yes, to a migrant person	18 (3.16%)	1 (1.41%)	6 (3.00%)	6 (4.26%)	5 (3.16%)
Yes, to the general public	16 (2.81%)	3 (4.23%)	7 (3.50%)	2 (1.42%)	4 (2.53%)
Act of discrimination was from:					
Health center staff	52 (59.1%)	2 (40.0%)	24 (80.0%)	8 (32.0%)	18 (64.3%)

	Overall	Less than 18	18 - 49	50 - 59	60 or more
	(N=570)	(N=71)	(N=200)	(N=141)	(N=158)
Security personnel	29 (33.0%)	1 (20.0%)	3 (10.0%)	16 (64.0%)	9 (32.1%)
Local population	10 (11.4%)	2 (40.0%)	4 (13.3%)	1 (4.00%)	3 (10.7%)
Other	3 (3.41%)	0 (0%)	2 (6.67%)	0 (0%)	1 (3.57%)
Facilitators of COVID-19 vaccination process					
Timely information has been provided	197 (34.6%)	9 (12.7%)	71 (35.5%)	64 (45.4%)	53 (33.5%)
Vaccination centers have been set up in different areas of city	175 (30.7%)	18 (25.4%)	50 (25.0%)	50 (35.5%)	57 (36.1%)
I don't know	244 (42.8%)	48 (67.6%)	85 (42.5%)	52 (36.9%)	59 (37.3%)
None	12 (2.11%)	0 (0%)	6 (3.00%)	3 (2.13%)	3 (1.90%)
Perceived any differences in the way of treatment for vaccinations compared to the majority population					
Yes	165 (28.9%)	9 (12.7%)	53 (26.5%)	40 (28.4%)	63 (39.9%)
No	220 (38.6%)	19 (26.8%)	94 (47.0%)	59 (41.8%)	48 (30.4%)
Don't Know / Don't Remember	185 (32.5%)	43 (60.6%)	53 (26.5%)	42 (29.8%)	47 (29.7%)
The national government's campaign was successful in getting migrants to go to vaccination centers					
Yes	241 (42.3%)	15 (21.1%)	91 (45.5%)	61 (43.3%)	74 (46.8%)
No	111 (19.5%)	8 (11.3%)	50 (25.0%)	24 (17.0%)	29 (18.4%)
Don't Know / Don't Remember	218 (38.2%)	48 (67.6%)	59 (29.5%)	56 (39.7%)	55 (34.8%)
Health centers set up at the national level are accessible by the community					
Yes	233 (40.9%)	12 (16.9%)	90 (45.0%)	62 (44.0%)	69 (43.7%)
No	131 (23.0%)	16 (22.5%)	57 (28.5%)	27 (19.1%)	31 (19.6%)
Don't Know / Don't Remember	206 (36.1%)	43 (60.6%)	53 (26.5%)	52 (36.9%)	58 (36.7%)
Time to reach the nearest vaccination center from home					
Between 30 min to 1 hour	279 (48.9%)	39 (54.9%)	101 (50.5%)	74 (52.5%)	65 (41.1%)
Less than 15 min	211 (37.0%)	18 (25.4%)	67 (33.5%)	49 (34.8%)	77 (48.7%)
Between 1 to 2 hours	61 (10.7%)	13 (18.3%)	20 (10.0%)	13 (9.22%)	15 (9.49%)
More than 2 hours	18 (3.16%)	1 (1.41%)	11 (5.50%)	5 (3.55%)	1 (0.633%)
Outside my province	1 (0.175%)	0 (0%)	1 (0.500%)	0 (0%)	0 (0%)
Vaccination centers hygienic for people					
Yes	295 (51.8%)	18 (25.4%)	110 (55.0%)	87 (61.7%)	80 (50.6%)
No	100 (17.5%)	13 (18.3%)	32 (16.0%)	23 (16.3%)	32 (20.3%)
Don't Know / Don't Remember	175 (30.7%)	40 (56.3%)	58 (29.0%)	31 (22.0%)	46 (29.1%)
National government provided adequate information on the percentage of vaccinated people per region					
Yes	259 (45.4%)	13 (18.3%)	94 (47.0%)	76 (53.9%)	76 (48.1%)
No	104 (18.2%)	10 (14.1%)	35 (17.5%)	26 (18.4%)	33 (20.9%)
Don't Know / Don't Remember	207 (36.3%)	48 (67.6%)	71 (35.5%)	39 (27.7%)	49 (31.0%)
Was there a clear, precise and transparent communication from the national and local government on the situation of COVID 19					
Yes	275 (48.2%)	17 (23.9%)	99 (49.5%)	80 (56.7%)	79 (50.0%)
No	86 (15.1%)	6 (8.45%)	26 (13.0%)	24 (17.0%)	30 (19.0%)
Don't Know / Don't Remember	209 (36.7%)	48 (67.6%)	75 (37.5%)	37 (26.2%)	49 (31.0%)

Supplementary Table 14: COVID-19 vaccination among migrants (by Gender)

	Overall	Female	Male
	(N=570)	(N=294)	(N=276)
Years of Living			
More than 5 years	540 (94.7%)	290 (98.6%)	250 (90.6%)
Less Than 5 Years	30 (5.26%)	4 (1.36%)	26 (9.42%)
Immigration status			
Regular (with valid documents)	370 (64.9%)	203 (69.0%)	167 (60.5%)
Irregular (no valid documents, pending, expired)	131 (23.0%)	69 (23.5%)	62 (22.5%)
Refugee	69 (12.1%)	22 (7.48%)	47 (17.0%)
Gender			
Female	294 (51.6%)	294 (100%)	0 (0%)
Male	276 (48.4%)	0 (0%)	276 (100%)
Age			
Less than 18	71 (12.5%)	35 (11.9%)	36 (13.0%)
18 – 49	200 (35.1%)	109 (37.1%)	91 (33.0%)
50 – 59	141 (24.7%)	71 (24.1%)	70 (25.4%)
60 or more	158 (27.7%)	79 (26.9%)	79 (28.6%)
Household members			
Spouse/partner	406 (71.2%)	194 (66.0%)	212 (76.8%)
Daughter/Son	441 (77.4%)	223 (75.9%)	218 (79.0%)
Mother/Father	212 (37.2%)	99 (33.7%)	113 (40.9%)
Sister/Brother	212 (37.2%)	104 (35.4%)	108 (39.1%)
Daughter-in-law/Brother-in-law	131 (23.0%)	72 (24.5%)	59 (21.4%)
Grandchildren	126 (22.1%)	81 (27.6%)	45 (16.3%)
Mother-in-law/Father-in-law	45 (7.89%)	23 (7.82%)	22 (7.97%)
Grandfather/Grandmother	31 (5.44%)	15 (5.10%)	16 (5.80%)
Non-relative	14 (2.46%)	5 (1.70%)	9 (3.26%)
Other Relative	9 (1.58%)	7 (2.38%)	2 (0.725%)
Minors under responsibility			
Yes, full time	256 (44.9%)	97 (33.0%)	159 (57.6%)
Yes, part-time	61 (10.7%)	23 (7.82%)	38 (13.8%)
No	236 (41.4%)	167 (56.8%)	69 (25.0%)
Don't know/don't remember	17 (2.98%)	7 (2.38%)	10 (3.62%)
Education			
Formal education not completed	415 (72.8%)	239 (81.3%)	176 (63.8%)
Primary education	81 (14.2%)	30 (10.2%)	51 (18.5%)
Secondary/Above	60 (10.5%)	24 (8.16%)	36 (13.0%)
I prefer not to say	14 (2.46%)	1 (0.340%)	13 (4.71%)
Participants at risk of COVID-19			
Do not belong to any risk group	351 (61.6%)	173 (58.8%)	178 (64.5%)
60 years or older	124 (21.8%)	61 (20.7%)	63 (22.8%)
Heart disease or high blood pressure	54 (9.47%)	38 (12.9%)	16 (5.80%)
Diabetes	19 (3.33%)	10 (3.40%)	9 (3.26%)

	Overall	Female	Male
	(N=570)	(N=294)	(N=276)
Chronic lung diseases	8 (1.40%)	5 (1.70%)	3 (1.09%)
Obesity	8 (1.40%)	3 (1.02%)	5 (1.81%)
Weak immune system (including cancer, HIV)	6 (1.05%)	4 (1.36%)	2 (0.725%)
Infected with COVID-19			
Yes	26 (4.56%)	10 (3.40%)	16 (5.80%)
No	459 (80.5%)	238 (81.0%)	221 (80.1%)
Don't Know	85 (14.9%)	46 (15.6%)	39 (14.1%)
Had access to the COVID-19 vaccination before getting infected			
Yes	19 (73.1%)	7 (70.0%)	12 (75.0%)
No	3 (11.5%)	0 (0%)	3 (18.8%)
Don't Know	4 (15.4%)	3 (30.0%)	1 (6.25%)
Reason of not getting vaccinated			
Rejected because he/she was a foreigner	3 (42.9%)	2 (66.7%)	1 (25.0%)
Vaccination had not started in the country	3 (42.9%)	1 (33.3%)	2 (50.0%)
Not willing to get the vaccine	1 (14.3%)	0 (0%)	1 (25.0%)
COVID-19 confirmed by a test			
Yes	7 (26.9%)	4 (40.0%)	3 (18.8%)
No	17 (65.4%)	4 (40.0%)	13 (81.3%)
Don't Know	2 (7.69%)	2 (20.0%)	0 (0%)
Hospitalization			
Yes	1 (3.85%)	0 (0%)	1 (6.25%)
No	23 (88.5%)	8 (80.0%)	15 (93.8%)
Don't Know	2 (7.69%)	2 (20.0%)	0 (0%)
Measures taken to avoid the spread of the coronavirus			
Washed hands / used disinfectants more often	383 (70.4%)	251 (88.4%)	132 (50.8%)
Generally, more careful with washing and cleaning	307 (56.4%)	175 (61.6%)	132 (50.8%)
Used protective equipment such as a face mask	209 (38.4%)	82 (28.9%)	127 (48.8%)
Kept at least one meter away from other persons	139 (25.6%)	68 (23.9%)	71 (27.3%)
Kept away from crowds	137 (25.2%)	93 (32.7%)	44 (16.9%)
Avoided public gatherings	117 (21.5%)	86 (30.3%)	31 (11.9%)
Canceled or postponed travels	56 (10.3%)	42 (14.8%)	14 (5.38%)
Used less public transportation	49 (9.01%)	23 (8.10%)	26 (10.0%)
Worked from home (had home office) more often than usual	35 (6.43%)	16 (5.63%)	19 (7.31%)
No, not done any of the above	20 (3.68%)	1 (0.352%)	19 (7.31%)
Offered COVID-19 vaccine			
Yes	376 (66.0%)	172 (58.5%)	204 (73.9%)
No	163 (28.6%)	105 (35.7%)	58 (21.0%)
Don't Know	31 (5.44%)	17 (5.78%)	14 (5.07%)
Plan to get vaccinated against COVID-19			
Yes	66 (34.0%)	24 (19.7%)	42 (58.3%)
No	115 (59.3%)	87 (71.3%)	28 (38.9%)

	Overall	Female	Male
	(N=570)	(N=294)	(N=276)
Don't Know	13 (6.70%)	11 (9.02%)	2 (2.78%)
Reasons of not taking COVID-19 vaccine			
Risk of adverse reactions to COVID-19 vaccines	64 (50.0%)	55 (56.1%)	9 (30.0%)
CNIC Not Available	11 (8.59%)	7 (7.14%)	4 (13.3%)
Afraid of/do not like doctors/syringes	11 (8.59%)	6 (6.12%)	5 (16.7%)
Not comfortable with the new COVID-19 vaccine	10 (7.81%)	7 (7.14%)	3 (10.0%)
Permission Problem	9 (7.03%)	8 (8.16%)	1 (3.33%)
COVID-19 vaccines does not work	8 (6.25%)	5 (5.10%)	3 (10.0%)
Adverse reactions to previous vaccines (others than the COVID-19 vaccine)	7 (5.47%)	4 (4.08%)	3 (10.0%)
Do not feel the need to protect myself	6 (4.69%)	2 (2.04%)	4 (13.3%)
There is too little experience with the use of the vaccine	6 (4.69%)	2 (2.04%)	4 (13.3%)
There is not much COVID-19 infection in the community	4 (3.13%)	1 (1.02%)	3 (10.0%)
Lack of Knowledge	4 (3.13%)	4 (4.08%)	0 (0%)
I don't need the vaccine: rarely/never sick, I don't belong to the priority group	3 (2.34%)	2 (2.04%)	1 (3.33%)
Want the body to develop natural immunity	3 (2.34%)	1 (1.02%)	2 (6.67%)
Do not trust the recommendation from the health authorities/municipality	3 (2.34%)	2 (2.04%)	1 (3.33%)
Others	2 (1.56%)	0 (0%)	2 (6.67%)
I do not need to protect my family/community	2 (1.56%)	2 (2.04%)	0 (0%)
Information from the media	1 (0.781%)	0 (0%)	1 (3.33%)
Political reasons (antigovernment feelings)	1 (0.781%)	1 (1.02%)	0 (0%)
Received the full doses of the COVID-19 vaccine			
Yes	248 (66.0%)	141 (82.0%)	107 (52.5%)
Partially	66 (17.6%)	9 (5.23%)	57 (27.9%)
No	54 (14.4%)	19 (11.0%)	35 (17.2%)
Don't Know	8 (2.13%)	3 (1.74%)	5 (2.45%)
Doses received			
One	103 (32.8%)	19 (12.7%)	84 (51.2%)
Two	199 (63.4%)	124 (82.7%)	75 (45.7%)
Three	12 (3.82%)	7 (4.67%)	5 (3.05%)
Month of receiving the first dose of the COVID-19 vaccine			
JAN – MAR	148 (47.1%)	86 (57.3%)	62 (37.8%)
APR – JUN	22 (7.01%)	8 (5.33%)	14 (8.54%)
JUL – SEP	68 (21.7%)	29 (19.3%)	39 (23.8%)
OCT – DEC	35 (11.1%)	24 (16.0%)	11 (6.71%)
Don't Know / Don't Remember	41 (13.1%)	3 (2.00%)	38 (23.2%)
Year of receiving the first dose of the COVID-19 vaccine			
2020	4 (1.27%)	2 (1.33%)	2 (1.22%)
2021	186 (59.2%)	71 (47.3%)	115 (70.1%)
2022	124 (39.5%)	77 (51.3%)	47 (28.7%)
Vaccine brand of first dose			
Sinovac	65 (20.7%)	40 (26.7%)	25 (15.2%)

	Overall	Female	Male
	(N=570)	(N=294)	(N=276)
Pfizer	63 (20.1%)	44 (29.3%)	19 (11.6%)
Moderna	40 (12.7%)	31 (20.7%)	9 (5.49%)
CanSino	33 (10.5%)	9 (6.00%)	24 (14.6%)
Sinopharm	27 (8.60%)	14 (9.33%)	13 (7.93%)
AstraZeneca	4 (1.27%)	1 (0.667%)	3 (1.83%)
Pak vaccine	3 (0.955%)	1 (0.667%)	2 (1.22%)
Johnson & Johnson	1 (0.318%)	0 (0%)	1 (0.610%)
Don't Know / Don't Remember	78 (24.8%)	10 (6.67%)	68 (41.5%)
Month of receiving the second dose of the COVID-19 vaccine			
JAN – MAR	78 (27.9%)	58 (41.1%)	20 (14.4%)
APR – JUN	27 (9.64%)	20 (14.2%)	7 (5.04%)
JUL – SEP	35 (12.5%)	17 (12.1%)	18 (12.9%)
OCT – DEC	43 (15.4%)	33 (23.4%)	10 (7.19%)
Un-Vaccinated	69 (24.6%)	10 (7.09%)	59 (42.4%)
Don't Remember	28 (10.0%)	3 (2.13%)	25 (18.0%)
Year of receiving the second dose of the COVID-19 vaccine			
2021	116 (55.0%)	58 (44.3%)	58 (72.5%)
2022	95 (45.0%)	73 (55.7%)	22 (27.5%)
Vaccine brand of second dose			
Pfizer	60 (28.4%)	44 (33.6%)	16 (20.0%)
Sinovac	52 (24.6%)	35 (26.7%)	17 (21.3%)
Moderna	34 (16.1%)	28 (21.4%)	6 (7.50%)
Sinopharm	21 (9.95%)	13 (9.92%)	8 (10.0%)
AstraZeneca	3 (1.42%)	1 (0.763%)	2 (2.50%)
Covaxin	1 (0.474%)	0 (0%)	1 (1.25%)
Sputnik V	1 (0.474%)	1 (0.763%)	0 (0%)
Don't Know / Don't Remember	39 (18.5%)	9 (6.87%)	30 (37.5%)
Month of receiving the booster dose			
JAN – MAR	8 (3.27%)	5 (3.57%)	3 (2.86%)
APR – JUN	2 (0.816%)	2 (1.43%)	0 (0%)
Un-Vaccinated	233 (95.1%)	133 (95.0%)	100 (95.2%)
Don't Know / Don't Remember	2 (0.816%)	0 (0%)	2 (1.90%)
Year of receiving the booster dose			
2022	10 (83.3%)	7 (100%)	3 (60.0%)
2021	2 (16.7%)	0 (0%)	2 (40.0%)
Vaccine brand of booster dose			
Pfizer	3 (25.0%)	3 (42.9%)	0 (0%)
Moderna	3 (25.0%)	3 (42.9%)	0 (0%)
CanSino	2 (16.7%)	0 (0%)	2 (40.0%)
Sinovac	1 (8.33%)	0 (0%)	1 (20.0%)
Sinopharm	1 (8.33%)	1 (14.3%)	0 (0%)

	Overall	Female	Male
	(N=570)	(N=294)	(N=276)
Don't Know / Don't Remember	2 (16.7%)	0 (0%)	2 (40.0%)
Experienced any side effect after vaccination			
Yes	5 (41.7%)	2 (28.6%)	3 (60.0%)
No	6 (50.0%)	5 (71.4%)	1 (20.0%)
Don't Know	1 (8.33%)	0 (0%)	1 (20.0%)
Type of side effects experienced			
Fever			
The vaccine is highly reliable			
Agree	33 (44.6%)	22 (75.9%)	11 (24.4%)
Disagree	24 (32.4%)	5 (17.2%)	19 (42.2%)
Neither agree nor disagree	10 (13.5%)	1 (3.45%)	9 (20.0%)
Strongly agree	5 (6.76%)	1 (3.45%)	4 (8.89%)
Strongly disagree	2 (2.70%)	0 (0%)	2 (4.44%)
The vaccine is a government requirement			
Agree	31 (41.9%)	20 (69.0%)	11 (24.4%)
Disagree	18 (24.3%)	3 (10.3%)	15 (33.3%)
Neither agree nor disagree	17 (23.0%)	6 (20.7%)	11 (24.4%)
Strongly agree	4 (5.41%)	0 (0%)	4 (8.89%)
Strongly disagree	4 (5.41%)	0 (0%)	4 (8.89%)
The vaccine protects my family, friends and community			
Agree	28 (37.8%)	14 (48.3%)	14 (31.1%)
Neither agree nor disagree	21 (28.4%)	11 (37.9%)	10 (22.2%)
Disagree	21 (28.4%)	4 (13.8%)	17 (37.8%)
Strongly agree	2 (2.70%)	0 (0%)	2 (4.44%)
Strongly disagree	2 (2.70%)	0 (0%)	2 (4.44%)
The vaccine is a requirement to enter establishments			
Disagree	25 (33.8%)	5 (17.2%)	20 (44.4%)
Agree	23 (31.1%)	14 (48.3%)	9 (20.0%)
Neither agree nor disagree	20 (27.0%)	9 (31.0%)	11 (24.4%)
Strongly agree	4 (5.41%)	1 (3.45%)	3 (6.67%)
Strongly disagree	2 (2.70%)	0 (0%)	2 (4.44%)
Getting vaccinated is my duty			
Disagree	29 (39.2%)	11 (37.9%)	18 (40.0%)
Neither agree nor disagree	19 (25.7%)	6 (20.7%)	13 (28.9%)
Agree	17 (23.0%)	12 (41.4%)	5 (11.1%)
Strongly disagree	5 (6.76%)	0 (0%)	5 (11.1%)
Strongly agree	4 (5.41%)	0 (0%)	4 (8.89%)
I get vaccinated because its safe			
Agree	29 (39.2%)	18 (62.1%)	11 (24.4%)
Disagree	21 (28.4%)	6 (20.7%)	15 (33.3%)
Neither agree nor disagree	17 (23.0%)	4 (13.8%)	13 (28.9%)

	Overall	Female	Male
	(N=570)	(N=294)	(N=276)
Strongly agree	4 (5.41%)	1 (3.45%)	3 (6.67%)
Strongly disagree	3 (4.05%)	0 (0%)	3 (6.67%)
I would not like to get vaccinated, but I get vaccinated because I am forced			
Disagree	29 (39.2%)	14 (48.3%)	15 (33.3%)
Neither agree nor disagree	19 (25.7%)	8 (27.6%)	11 (24.4%)
Agree	16 (21.6%)	6 (20.7%)	10 (22.2%)
Strongly disagree	7 (9.46%)	0 (0%)	7 (15.6%)
Strongly agree	3 (4.05%)	1 (3.45%)	2 (4.44%)
Concerned about COVID-19 vaccine serious side effects			
Very concerned	96 (16.8%)	59 (20.1%)	37 (13.4%)
Moderately concerned	69 (12.1%)	32 (10.9%)	37 (13.4%)
A little concerned	270 (47.4%)	168 (57.1%)	102 (37.0%)
Not at all concerned	135 (23.7%)	35 (11.9%)	100 (36.2%)
Willingness to get a COVID-19 vaccine			
Very much	53 (9.30%)	23 (7.82%)	30 (10.9%)
Moderately	131 (23.0%)	69 (23.5%)	62 (22.5%)
A little	318 (55.8%)	171 (58.2%)	147 (53.3%)
Not at all	68 (11.9%)	31 (10.5%)	37 (13.4%)
Preferred Location of getting COVID-19 vaccine			
Hospital	424 (74.4%)	221 (75.2%)	203 (73.6%)
Health Center/Clinic	132 (23.2%)	69 (23.5%)	63 (22.8%)
Workplace	28 (4.91%)	5 (1.70%)	23 (8.33%)
Pharmacy	7 (1.23%)	1 (0.340%)	6 (2.17%)
Community center, meeting room, local store	16 (2.81%)	3 (1.02%)	13 (4.71%)
University	1 (0.175%)	1 (0.340%)	0 (0%)
Shopping Center	4 (0.702%)	2 (0.680%)	2 (0.725%)
School near the place of residence	71 (12.5%)	22 (7.48%)	49 (17.8%)
Residential Area	30 (5.26%)	29 (9.86%)	1 (0.362%)
I don't want to get vaccinated	36 (6.32%)	18 (6.12%)	18 (6.52%)
Other	1 (0.175%)	1 (0.340%)	0 (0%)
Final say on getting COVID-19 vaccine (from family)			
Participant, itself	359 (63.0%)	140 (47.6%)	219 (79.3%)
Spouse/partner	79 (13.9%)	66 (22.4%)	13 (4.71%)
Father	66 (11.6%)	38 (12.9%)	28 (10.1%)
Mother	31 (5.44%)	20 (6.80%)	11 (3.99%)
His/her child	30 (5.26%)	28 (9.52%)	2 (0.725%)
Someone else	5 (0.877%)	2 (0.680%)	3 (1.09%)
Family and close friends willing to get a COVID-19 vaccine			
Yes	303 (53.2%)	133 (45.2%)	170 (61.6%)
No	104 (18.2%)	40 (13.6%)	64 (23.2%)
Don't Know	163 (28.6%)	121 (41.2%)	42 (15.2%)

	Overall	Female	Male
	(N=570)	(N=294)	(N=276)
Trust on healthcare providers giving COVID-19 vaccine			
Very much	68 (11.9%)	47 (16.0%)	21 (7.61%)
Moderately	107 (18.8%)	54 (18.4%)	53 (19.2%)
A little	294 (51.6%)	175 (59.5%)	119 (43.1%)
Not at all	101 (17.7%)	18 (6.12%)	83 (30.1%)
Main difficulties for the population to NOT get the COVID-19 vaccine			
Nothing. It is not difficult	259 (45.4%)	125 (42.5%)	134 (48.6%)
The vaccination site is too far away	70 (12.3%)	40 (13.6%)	30 (10.9%)
The COVID-19 vaccine is not available for a given group	50 (8.77%)	3 (1.02%)	47 (17.0%)
They can't go on their own (they have physical limitation)	60 (10.5%)	30 (10.2%)	30 (10.9%)
It is difficult to register for vaccination	50 (8.77%)	28 (9.52%)	22 (7.97%)
They do not have the internet or a smartphone to register for vaccination	35 (6.14%)	14 (4.76%)	21 (7.61%)
The waiting time is too long	32 (5.61%)	13 (4.42%)	19 (6.88%)
Don't have valid documents/CNIC	31 (5.44%)	11 (3.74%)	20 (7.25%)
People are turned away without vaccination	29 (5.09%)	7 (2.38%)	22 (7.97%)
Opening hours are inconvenient	26 (4.56%)	4 (1.36%)	22 (7.97%)
Vaccination costs too much	24 (4.21%)	5 (1.70%)	19 (6.88%)
No permission from male members of family	18 (3.16%)	17 (5.78%)	1 (0.362%)
Misconception spread by peoples	16 (2.81%)	5 (1.70%)	11 (3.99%)
No awareness about vaccines	9 (1.58%)	9 (3.06%)	0 (0%)
Others	62 (10.9%)	43 (14.6%)	19 (6.88%)
Main source of information about the COVID-19 vaccination process			
Local newspapers, radio and/or television channels	334 (58.6%)	154 (52.4%)	180 (65.2%)
Foreign newspapers, radio and/or television channels	164 (28.8%)	42 (14.3%)	122 (44.2%)
Family and/or social network in your home country	139 (24.4%)	104 (35.4%)	35 (12.7%)
Social media	101 (17.7%)	58 (19.7%)	43 (15.6%)
Family or social network in country you are currently living	88 (15.4%)	60 (20.4%)	28 (10.1%)
Local authorities' statements	83 (14.6%)	27 (9.18%)	56 (20.3%)
Camp staff	82 (14.4%)	43 (14.6%)	39 (14.1%)
At your workplace	62 (10.9%)	22 (7.48%)	40 (14.5%)
Brochures	49 (8.60%)	34 (11.6%)	15 (5.43%)
Local government websites	43 (7.54%)	14 (4.76%)	29 (10.5%)
Internet and/or social networks	21 (3.68%)	11 (3.74%)	10 (3.62%)
NGO's	19 (3.33%)	12 (4.08%)	7 (2.54%)
School Teacher	4 (0.702%)	3 (1.02%)	1 (0.362%)
Others	4 (0.702%)	2 (0.680%)	2 (0.725%)
I have not received information about COVID-19 vaccination	6 (1.05%)	4 (1.36%)	2 (0.725%)
Know about types of vaccines (brands) available for COVID-19			
Yes	115 (20.2%)	15 (5.10%)	100 (36.2%)
No	324 (56.8%)	205 (69.7%)	119 (43.1%)
I am Not Sure	131 (23.0%)	74 (25.2%)	57 (20.7%)

	Overall	Female	Male
	(N=570)	(N=294)	(N=276)
Know about place of getting COVID-19 vaccination			
Yes	323 (56.7%)	159 (54.1%)	164 (59.4%)
No	136 (23.9%)	61 (20.7%)	75 (27.2%)
I am Not Sure	111 (19.5%)	74 (25.2%)	37 (13.4%)
Place of getting COVID-19 vaccine			
Hospital	291 (90.1%)	150 (94.3%)	141 (86.0%)
Health Center/Clinic	93 (28.8%)	43 (27.0%)	50 (30.5%)
Workplace	19 (5.88%)	8 (5.03%)	11 (6.71%)
Community center, meeting room, or local store	15 (4.64%)	4 (2.52%)	11 (6.71%)
Pharmacy	5 (1.55%)	0 (0%)	5 (3.05%)
Shopping Center	4 (1.24%)	2 (1.26%)	2 (1.22%)
School	3 (0.929%)	2 (1.26%)	1 (0.610%)
University	2 (0.619%)	2 (1.26%)	0 (0%)
Other	3 (0.929%)	1 (0.629%)	2 (1.22%)
I don't want to get vaccinated	16 (4.95%)	5 (3.14%)	11 (6.71%)
Have you observed/heard any comment about the COVID-19 vaccination for refugees/migrants?			
Yes	127 (22.3%)	17 (5.78%)	110 (39.9%)
No	352 (61.8%)	214 (72.8%)	138 (50.0%)
I am Not Sure	91 (16.0%)	63 (21.4%)	28 (10.1%)
Comments Observed/heard about the COVID-19 vaccination for refugees/migrants			
Request documentation to administer the dose	44 (34.6%)	10 (58.8%)	34 (30.9%)
Only national people have access	26 (20.5%)	2 (11.8%)	24 (21.8%)
Dangerous for health	19 (3.33%)	0 (0%)	19 (6.88%)
Deport people without documentation	12 (9.45%)	3 (17.6%)	9 (8.18%)
Other	7 (1.23%)	1 (0.340%)	6 (2.17%)
Don't know/don't remember	19 (15.0%)	1 (5.88%)	18 (16.4%)
Funder of vaccination process in the country			
Government	391 (68.6%)	200 (68.0%)	191 (69.2%)
NGOs	25 (4.39%)	2 (0.680%)	23 (8.33%)
Private company	6 (1.05%)	3 (1.02%)	3 (1.09%)
Other	1 (0.175%)	1 (0.340%)	0 (0%)
Don't know	158 (27.7%)	90 (30.6%)	68 (24.6%)
Made any payment or contribution to be vaccinated against COVID-19			
Paid to get an appointment	20 (3.51%)	1 (0.340%)	19 (6.88%)
Bought the syringes	1 (0.175%)	0 (0%)	1 (0.362%)
Paid to get a vaccination certificate	8 (1.40%)	6 (2.04%)	2 (0.725%)
Totally free of charge	289 (50.7%)	146 (49.7%)	143 (51.8%)
I have not been vaccinated	256 (44.9%)	144 (49.0%)	112 (40.6%)
Other	1 (0.175%)	0 (0%)	1 (0.362%)
Received a vaccination card or information on where to find a vaccination card after getting vaccinated			
Yes	286 (91.1%)	140 (93.3%)	146 (89.0%)

	Overall	Female	Male
	(N=570)	(N=294)	(N=276)
No	23 (7.32%)	10 (6.67%)	13 (7.93%)
Don't Know / Don't Remember	5 (1.59%)	0 (0%)	5 (3.05%)
Have a vaccination card or certificate			
Yes	262 (83.4%)	115 (76.7%)	147 (89.6%)
No	50 (15.9%)	33 (22.0%)	17 (10.4%)
Don't know	2 (0.637%)	2 (1.33%)	0 (0%)
Place of obtaining the vaccination card or certificate			
Vaccination center	209 (79.8%)	104 (90.4%)	105 (71.4%)
Website	43 (16.4%)	7 (6.09%)	36 (24.5%)
From a different health facility	10 (3.82%)	4 (3.48%)	6 (4.08%)
Faced any problem acquiring the vaccination card or certificate			
No	240 (91.6%)	110 (95.7%)	130 (88.4%)
System showed an error	18 (6.87%)	3 (2.61%)	15 (10.2%)
Data was not correct	3 (1.15%)	1 (0.870%)	2 (1.36%)
Other	1 (0.382%)	1 (0.870%)	0 (0%)
Ever been denied access to vaccination because of no identity document			
Yes	18 (5.73%)	3 (2.00%)	15 (9.15%)
No	276 (87.9%)	141 (94.0%)	135 (82.3%)
Don't Know / Don't Remember	20 (6.37%)	6 (4.00%)	14 (8.54%)
A special code was generated in case of unavailability of ID card at the time of vaccination			
Yes	8 (44.4%)	0 (0%)	8 (53.3%)
No	5 (27.8%)	2 (66.7%)	3 (20.0%)
Was not allowed to get vaccinated	3 (16.7%)	1 (33.3%)	2 (13.3%)
Not Applicable	2 (11.1%)	0 (0%)	2 (13.3%)
Vaccination plan implemented in residing country was more accessible to people in mobility compared to other neighboring countries			
Yes	100 (17.5%)	39 (13.3%)	61 (22.1%)
No	111 (19.5%)	28 (9.52%)	83 (30.1%)
Don't know how it was in another country	183 (32.1%)	128 (43.5%)	55 (19.9%)
Don't Know / Don't Remember	176 (30.9%)	99 (33.7%)	77 (27.9%)
Witnessed any kind of discrimination during the vaccination process			
Did not witness any act of discrimination	487 (85.4%)	278 (94.6%)	209 (75.7%)
Yes, to myself	54 (9.47%)	8 (2.72%)	46 (16.7%)
Yes, to a migrant person	18 (3.16%)	4 (1.36%)	14 (5.07%)
Yes, to the general public	16 (2.81%)	7 (2.38%)	9 (3.26%)
Act of discrimination was from:			
Health center staff	52 (59.1%)	11 (57.9%)	41 (59.4%)
Security personnel	29 (33.0%)	4 (21.1%)	25 (36.2%)
Local population	10 (11.4%)	5 (26.3%)	5 (7.25%)
Other	3 (3.41%)	1 (5.26%)	2 (2.90%)
Facilitators of COVID-19 vaccination process			
Timely information has been provided	197 (34.6%)	102 (34.7%)	95 (34.4%)

	Overall	Female	Male
	(N=570)	(N=294)	(N=276)
Vaccination centers have been set up in different areas of city	175 (30.7%)	109 (37.1%)	66 (23.9%)
I don't know	244 (42.8%)	132 (44.9%)	112 (40.6%)
None	12 (2.11%)	1 (0.340%)	11 (3.99%)
Perceived any differences in the way of treatment for vaccinations compared to the majority population			
Yes	165 (28.9%)	72 (24.5%)	93 (33.7%)
No	220 (38.6%)	111 (37.8%)	109 (39.5%)
Don't Know / Don't Remember	185 (32.5%)	111 (37.8%)	74 (26.8%)
The national government's campaign was successful in getting migrants to go to vaccination centers			
Yes	241 (42.3%)	129 (43.9%)	112 (40.6%)
No	111 (19.5%)	32 (10.9%)	79 (28.6%)
Don't Know / Don't Remember	218 (38.2%)	133 (45.2%)	85 (30.8%)
Health centers set up at the national level are accessible by the community			
Yes	233 (40.9%)	119 (40.5%)	114 (41.3%)
No	131 (23.0%)	47 (16.0%)	84 (30.4%)
Don't Know / Don't Remember	206 (36.1%)	128 (43.5%)	78 (28.3%)
Time to reach the nearest vaccination center from home			
Between 30 min to 1 hour	279 (48.9%)	131 (44.6%)	148 (53.6%)
Less than 15 min	211 (37.0%)	102 (34.7%)	109 (39.5%)
Between 1 to 2 hours	61 (10.7%)	46 (15.6%)	15 (5.43%)
More than 2 hours	18 (3.16%)	14 (4.76%)	4 (1.45%)
Outside my province	1 (0.175%)	1 (0.340%)	0 (0%)
Vaccination centers hygienic for people			
Yes	295 (51.8%)	176 (59.9%)	119 (43.1%)
No	100 (17.5%)	22 (7.48%)	78 (28.3%)
Don't Know / Don't Remember	175 (30.7%)	96 (32.7%)	79 (28.6%)
National government provided adequate information on the percentage of vaccinated people per region			
Yes	259 (45.4%)	153 (52.0%)	106 (38.4%)
No	104 (18.2%)	24 (8.16%)	80 (29.0%)
Don't Know / Don't Remember	207 (36.3%)	117 (39.8%)	90 (32.6%)
Was there a clear, precise and transparent communication from the national and local government on the situation of COVID 19			
Yes	275 (48.2%)	158 (53.7%)	117 (42.4%)
No	86 (15.1%)	16 (5.44%)	70 (25.4%)
Don't Know / Don't Remember	209 (36.7%)	120 (40.8%)	89 (32.2%)

Supplementary Table 15: COVID-19 vaccination among migrants (by Education)

	Overall	No Formal Education	Primary education	Secondary/Above
	(N=556)	(N=415)	(N=81)	(N=60)
Years of Living				
More than 5 years	528 (95.0%)	394 (94.9%)	79 (97.5%)	55 (91.7%)
Less Than 5 Years	28 (5.04%)	21 (5.06%)	2 (2.47%)	5 (8.33%)
Immigration status				
Regular (with valid documents)	362 (65.1%)	271 (65.3%)	49 (60.5%)	42 (70.0%)
Irregular (no valid documents, pending, expired)	128 (23.0%)	100 (24.1%)	16 (19.8%)	12 (20.0%)
Refugee	66 (11.9%)	44 (10.6%)	16 (19.8%)	6 (10.0%)
Gender				
Female	293 (52.7%)	239 (57.6%)	30 (37.0%)	24 (40.0%)
Male	263 (47.3%)	176 (42.4%)	51 (63.0%)	36 (60.0%)
Age				
Less than 18	68 (12.2%)	38 (9.16%)	23 (28.4%)	7 (11.7%)
18 – 49	196 (35.3%)	117 (28.2%)	34 (42.0%)	45 (75.0%)
50 – 59	138 (24.8%)	119 (28.7%)	15 (18.5%)	4 (6.67%)
60 or more	154 (27.7%)	141 (34.0%)	9 (11.1%)	4 (6.67%)
Household members				
Spouse/partner	395 (71.0%)	317 (76.4%)	48 (59.3%)	30 (50.0%)
Daughter/Son	432 (77.7%)	345 (83.1%)	52 (64.2%)	35 (58.3%)
Mother/Father	206 (37.1%)	117 (28.2%)	47 (58.0%)	42 (70.0%)
Sister/Brother	206 (37.1%)	122 (29.4%)	42 (51.9%)	42 (70.0%)
Daughter-in-law/Brother-in-law	126 (22.7%)	101 (24.3%)	16 (19.8%)	9 (15.0%)
Grandchildren	122 (21.9%)	106 (25.5%)	12 (14.8%)	4 (6.67%)
Mother-in-law/Father-in-law	43 (7.73%)	26 (6.27%)	7 (8.64%)	10 (16.7%)
Grandfather/Grandmother	30 (5.40%)	17 (4.10%)	5 (6.17%)	8 (13.3%)
Non-relative	14 (2.52%)	9 (2.17%)	2 (2.47%)	3 (5.00%)
Other Relative	9 (1.62%)	3 (0.723%)	2 (2.47%)	4 (6.67%)
Minors under responsibility				
Yes, full time	251 (45.1%)	188 (45.3%)	35 (43.2%)	28 (46.7%)
Yes, part-time	58 (10.4%)	38 (9.16%)	17 (21.0%)	3 (5.00%)
No	231 (41.5%)	178 (42.9%)	27 (33.3%)	26 (43.3%)
Don't know/don't remember	16 (2.88%)	11 (2.65%)	2 (2.47%)	3 (5.00%)
Education				
Formal education not completed	415 (74.6%)	415 (100%)	0 (0%)	0 (0%)
Primary education	81 (14.6%)	0 (0%)	81 (100%)	0 (0%)
Secondary/Above	60 (10.8%)	0 (0%)	0 (0%)	60 (100%)
I prefer not to say	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Participants at risk of COVID-19				
Do not belong to any risk group	341 (61.3%)	222 (53.5%)	66 (81.5%)	53 (88.3%)
60 years or older	121 (21.8%)	112 (27.0%)	6 (7.41%)	3 (5.00%)
Heart disease or high blood pressure	54 (9.71%)	47 (11.3%)	5 (6.17%)	2 (3.33%)
Diabetes	19 (3.42%)	15 (3.61%)	2 (2.47%)	2 (3.33%)

	Overall	No Formal Education	Primary education	Secondary/Above
	(N=556)	(N=415)	(N=81)	(N=60)
Chronic lung diseases	8 (1.44%)	7 (1.69%)	1 (1.23%)	0 (0%)
Obesity	7 (1.26%)	7 (1.69%)	0 (0%)	0 (0%)
Weak immune system (including cancer, HIV)	6 (1.08%)	5 (1.20%)	1 (1.23%)	0 (0%)
Infected with COVID-19				
Yes	26 (4.68%)	17 (4.10%)	3 (3.70%)	6 (10.0%)
No	449 (80.8%)	345 (83.1%)	63 (77.8%)	41 (68.3%)
Don't Know	81 (14.6%)	53 (12.8%)	15 (18.5%)	13 (21.7%)
Had access to the COVID-19 vaccination before getting infected				
Yes	19 (73.1%)	12 (70.6%)	2 (66.7%)	5 (83.3%)
No	3 (11.5%)	3 (17.6%)	0 (0%)	0 (0%)
Don't Know	4 (15.4%)	2 (11.8%)	1 (33.3%)	1 (16.7%)
Reason of not getting vaccinated				
Rejected because he/she was a foreigner	3 (42.9%)	3 (60.0%)	0 (0%)	0 (0%)
Vaccination had not started in the country	3 (42.9%)	1 (20.0%)	1 (100%)	1 (100%)
Not willing to get the vaccine	1 (14.3%)	1 (20.0%)	0 (0%)	0 (0%)
COVID-19 confirmed by a test				
Yes	7 (26.9%)	5 (29.4%)	1 (33.3%)	1 (16.7%)
No	17 (65.4%)	10 (58.8%)	2 (66.7%)	5 (83.3%)
Don't Know	2 (7.69%)	2 (11.8%)	0 (0%)	0 (0%)
Hospitalization				
Yes	1 (3.85%)	1 (5.88%)	0 (0%)	0 (0%)
No	23 (88.5%)	14 (82.4%)	3 (100%)	6 (100%)
Don't Know	2 (7.69%)	2 (11.8%)	0 (0%)	0 (0%)
Measures taken to avoid the spread of the coronavirus				
Washed hands / used disinfectants more often	379 (71.5%)	286 (71.9%)	52 (66.7%)	41 (75.9%)
Generally, more careful with washing and cleaning	304 (57.4%)	220 (55.3%)	41 (52.6%)	43 (79.6%)
Used protective equipment such as a face mask	204 (38.5%)	137 (34.4%)	32 (41.0%)	35 (64.8%)
Kept at least one meter away from other persons	137 (25.8%)	89 (22.4%)	23 (29.5%)	25 (46.3%)
Kept away from crowds	134 (25.3%)	96 (24.1%)	15 (19.2%)	23 (42.6%)
Avoided public gatherings	114 (21.5%)	94 (23.6%)	11 (14.1%)	9 (16.7%)
Canceled or postponed travels	55 (10.4%)	37 (9.30%)	11 (14.1%)	7 (13.0%)
Used less public transportation	48 (9.06%)	29 (7.29%)	10 (12.8%)	9 (16.7%)
Worked from home (had home office) more often than usual	33 (6.23%)	19 (4.77%)	4 (5.13%)	10 (18.5%)
No, not done any of the above	15 (2.83%)	12 (3.02%)	2 (2.56%)	1 (1.85%)
Offered COVID-19 vaccine				
Yes	365 (65.6%)	267 (64.3%)	52 (64.2%)	46 (76.7%)
No	161 (29.0%)	126 (30.4%)	23 (28.4%)	12 (20.0%)
Don't Know	30 (5.40%)	22 (5.30%)	6 (7.41%)	2 (3.33%)
Plan to get vaccinated against COVID-19				
Yes	64 (33.5%)	42 (28.4%)	16 (55.2%)	6 (42.9%)
No	114 (59.7%)	96 (64.9%)	12 (41.4%)	6 (42.9%)

	Overall	No Formal Education	Primary education	Secondary/Above
	(N=556)	(N=415)	(N=81)	(N=60)
Don't Know	13 (6.81%)	10 (6.76%)	1 (3.45%)	2 (14.3%)
Reasons of not taking COVID-19 vaccine				
Risk of adverse reactions to COVID-19 vaccines	63 (49.6%)	47 (44.3%)	10 (76.9%)	6 (75.0%)
CNIC Not Available	11 (8.66%)	11 (10.4%)	0 (0%)	0 (0%)
Afraid of/do not like doctors/syringes	11 (8.66%)	8 (7.55%)	3 (23.1%)	0 (0%)
Not comfortable with the new COVID-19 vaccine	10 (7.87%)	8 (7.55%)	1 (7.69%)	1 (12.5%)
Permission Problem	9 (7.09%)	9 (8.49%)	0 (0%)	0 (0%)
COVID-19 vaccines does not work	8 (6.30%)	6 (5.66%)	2 (15.4%)	0 (0%)
Adverse reactions to previous vaccines (others than the COVID-19 vaccine)	7 (5.51%)	5 (4.72%)	1 (7.69%)	1 (12.5%)
Do not feel the need to protect myself	5 (3.94%)	3 (2.83%)	2 (15.4%)	0 (0%)
There is too little experience with the use of the vaccine	6 (4.72%)	4 (3.77%)	0 (0%)	2 (25.0%)
There is not much COVID-19 infection in the community	3 (2.36%)	3 (2.83%)	0 (0%)	0 (0%)
Lack of Knowledge	4 (3.15%)	4 (3.77%)	0 (0%)	0 (0%)
I don't need the vaccine: rarely/never sick, I don't belong to the priority group	3 (2.36%)	2 (1.89%)	0 (0%)	1 (12.5%)
Want the body to develop natural immunity	3 (2.36%)	2 (1.89%)	1 (7.69%)	0 (0%)
Do not trust the recommendation from the health authorities/municipality	3 (2.36%)	2 (1.89%)	1 (7.69%)	0 (0%)
Others	2 (1.57%)	2 (1.89%)	0 (0%)	0 (0%)
I do not need to protect my family/community	2 (1.57%)	2 (1.89%)	0 (0%)	0 (0%)
Information from the media	1 (0.787%)	0 (0%)	0 (0%)	1 (12.5%)
Political reasons (antigovernment feelings)	1 (0.787%)	0 (0%)	1 (7.69%)	0 (0%)
Received the full doses of the COVID-19 vaccine				
Yes	244 (66.8%)	189 (70.8%)	29 (55.8%)	26 (56.5%)
Partially	65 (17.8%)	38 (14.2%)	12 (23.1%)	15 (32.6%)
No	48 (13.2%)	33 (12.4%)	10 (19.2%)	5 (10.9%)
Don't Know	8 (2.19%)	7 (2.62%)	1 (1.92%)	0 (0%)
Doses received				
One	101 (32.7%)	59 (26.0%)	18 (43.9%)	24 (58.5%)
Two	196 (63.4%)	158 (69.6%)	22 (53.7%)	16 (39.0%)
Three	12 (3.88%)	10 (4.41%)	1 (2.44%)	1 (2.44%)
Month of receiving the first dose of the COVID-19 vaccine				
JAN – MAR	147 (47.6%)	103 (45.4%)	26 (63.4%)	18 (43.9%)
APR – JUN	22 (7.12%)	19 (8.37%)	2 (4.88%)	1 (2.44%)
JUL – SEP	65 (21.0%)	46 (20.3%)	5 (12.2%)	14 (34.1%)
OCT – DEC	35 (11.3%)	28 (12.3%)	5 (12.2%)	2 (4.88%)
Don't Know / Don't Remember	40 (12.9%)	31 (13.7%)	3 (7.32%)	6 (14.6%)
Year of receiving the first dose of the COVID-19 vaccine				
2020	4 (1.29%)	2 (0.881%)	2 (4.88%)	0 (0%)
2021	182 (58.9%)	129 (56.8%)	20 (48.8%)	33 (80.5%)
2022	123 (39.8%)	96 (42.3%)	19 (46.3%)	8 (19.5%)
Vaccine brand of first dose				

	Overall	No Formal Education	Primary education	Secondary/Above
	(N=556)	(N=415)	(N=81)	(N=60)
Sinovac	64 (20.7%)	47 (20.7%)	12 (29.3%)	5 (12.2%)
Pfizer	62 (20.1%)	49 (21.6%)	9 (22.0%)	4 (9.76%)
Moderna	40 (12.9%)	35 (15.4%)	2 (4.88%)	3 (7.32%)
CanSino	32 (10.4%)	19 (8.37%)	6 (14.6%)	7 (17.1%)
Sinopharm	26 (8.41%)	22 (9.69%)	2 (4.88%)	2 (4.88%)
AstraZeneca	4 (1.29%)	3 (1.32%)	1 (2.44%)	0 (0%)
Pak vaccine	3 (0.971%)	1 (0.441%)	1 (2.44%)	1 (2.44%)
Johnson & Johnson	1 (0.324%)	1 (0.441%)	0 (0%)	0 (0%)
Don't Know / Don't Remember	77 (24.9%)	50 (22.0%)	8 (19.5%)	19 (46.3%)
Month of receiving the second dose of the COVID-19 vaccine				
JAN – MAR	78 (28.3%)	62 (30.0%)	12 (34.3%)	4 (11.8%)
APR – JUN	27 (9.78%)	23 (11.1%)	3 (8.57%)	1 (2.94%)
JUL – SEP	33 (12.0%)	28 (13.5%)	3 (8.57%)	2 (5.88%)
OCT – DEC	43 (15.6%)	34 (16.4%)	3 (8.57%)	6 (17.6%)
Un-Vaccinated	68 (24.6%)	39 (18.8%)	12 (34.3%)	17 (50.0%)
Don't Remember	27 (9.78%)	21 (10.1%)	2 (5.71%)	4 (11.8%)
Year of receiving the second dose of the COVID-19 vaccine				
2021	113 (54.3%)	89 (53.0%)	11 (47.8%)	13 (76.5%)
2022	95 (45.7%)	79 (47.0%)	12 (52.2%)	4 (23.5%)
Vaccine brand of second dose				
Pfizer	60 (28.8%)	49 (29.2%)	9 (39.1%)	2 (11.8%)
Sinovac	51 (24.5%)	40 (23.8%)	7 (30.4%)	4 (23.5%)
Moderna	34 (16.3%)	30 (17.9%)	2 (8.70%)	2 (11.8%)
Sinopharm	20 (9.62%)	18 (10.7%)	1 (4.35%)	1 (5.88%)
AstraZeneca	3 (1.44%)	2 (1.19%)	1 (4.35%)	0 (0%)
Covaxin	1 (0.481%)	1 (0.595%)	0 (0%)	0 (0%)
Sputnik V	1 (0.481%)	0 (0%)	0 (0%)	1 (5.88%)
Don't Know / Don't Remember	38 (18.3%)	28 (16.7%)	3 (13.0%)	7 (41.2%)
Month of receiving the booster dose				
JAN – MAR	8 (3.32%)	6 (3.19%)	1 (3.45%)	1 (4.17%)
APR – JUN	2 (0.830%)	2 (1.06%)	0 (0%)	0 (0%)
Un-Vaccinated	229 (95.0%)	178 (94.7%)	28 (96.6%)	23 (95.8%)
Don't Know / Don't Remember	2 (0.830%)	2 (1.06%)	0 (0%)	0 (0%)
Year of receiving the booster dose				
2022	10 (83.3%)	8 (80.0%)	1 (100%)	1 (100%)
2021	2 (16.7%)	2 (20.0%)	0 (0%)	0 (0%)
Vaccine brand of booster dose				
Pfizer	3 (25.0%)	2 (20.0%)	1 (100%)	0 (0%)
Moderna	3 (25.0%)	2 (20.0%)	0 (0%)	1 (100%)
CanSino	2 (16.7%)	2 (20.0%)	0 (0%)	0 (0%)
Sinovac	1 (8.33%)	1 (10.0%)	0 (0%)	0 (0%)

	Overall	No Formal Education	Primary education	Secondary/Above
	(N=556)	(N=415)	(N=81)	(N=60)
Sinopharm	1 (8.33%)	1 (10.0%)	0 (0%)	0 (0%)
Don't Know / Don't Remember	2 (16.7%)	2 (20.0%)	0 (0%)	0 (0%)
Experienced any side effect after vaccination				
Yes	5 (41.7%)	4 (40.0%)	1 (100%)	0 (0%)
No	6 (50.0%)	5 (50.0%)	0 (0%)	1 (100%)
Don't Know	1 (8.33%)	1 (10.0%)	0 (0%)	0 (0%)
Type of side effects experienced				
Fever	5 (100%)	4 (100%)	1 (100%)	NA
The vaccine is highly reliable				
Agree	33 (48.5%)	24 (48.0%)	6 (50.0%)	3 (50.0%)
Disagree	19 (27.9%)	14 (28.0%)	2 (16.7%)	3 (50.0%)
Neither agree nor disagree	10 (14.7%)	7 (14.0%)	3 (25.0%)	0 (0%)
Strongly agree	4 (5.88%)	4 (8.00%)	0 (0%)	0 (0%)
Strongly disagree	2 (2.94%)	1 (2.00%)	1 (8.33%)	0 (0%)
The vaccine is a government requirement				
Agree	31 (45.6%)	23 (46.0%)	5 (41.7%)	3 (50.0%)
Neither agree nor disagree	16 (23.5%)	11 (22.0%)	5 (41.7%)	0 (0%)
Disagree	14 (20.6%)	11 (22.0%)	1 (8.33%)	2 (33.3%)
Strongly disagree	4 (5.88%)	2 (4.00%)	1 (8.33%)	1 (16.7%)
Strongly agree	3 (4.41%)	3 (6.00%)	0 (0%)	0 (0%)
The vaccine protects my family, friends and community				
Agree	27 (39.7%)	21 (42.0%)	4 (33.3%)	2 (33.3%)
Neither agree nor disagree	21 (30.9%)	14 (28.0%)	6 (50.0%)	1 (16.7%)
Disagree	16 (23.5%)	12 (24.0%)	1 (8.33%)	3 (50.0%)
Strongly agree	2 (2.94%)	2 (4.00%)	0 (0%)	0 (0%)
Strongly disagree	2 (2.94%)	1 (2.00%)	1 (8.33%)	0 (0%)
The vaccine is a requirement to enter establishments				
Agree	22 (32.4%)	17 (34.0%)	3 (25.0%)	2 (33.3%)
Neither agree nor disagree	20 (29.4%)	13 (26.0%)	6 (50.0%)	1 (16.7%)
Disagree	20 (29.4%)	15 (30.0%)	2 (16.7%)	3 (50.0%)
Strongly agree	4 (5.88%)	4 (8.00%)	0 (0%)	0 (0%)
Strongly disagree	2 (2.94%)	1 (2.00%)	1 (8.33%)	0 (0%)
Getting vaccinated is my duty				
Disagree	24 (35.3%)	17 (34.0%)	4 (33.3%)	3 (50.0%)
Neither agree nor disagree	19 (27.9%)	14 (28.0%)	4 (33.3%)	1 (16.7%)
Agree	16 (23.5%)	11 (22.0%)	3 (25.0%)	2 (33.3%)
Strongly disagree	5 (7.35%)	4 (8.00%)	1 (8.33%)	0 (0%)
Strongly agree	4 (5.88%)	4 (8.00%)	0 (0%)	0 (0%)
I get vaccinated because its safe				
Agree	28 (41.2%)	21 (42.0%)	5 (41.7%)	2 (33.3%)
Disagree	17 (25.0%)	11 (22.0%)	2 (16.7%)	4 (66.7%)

	Overall	No Formal Education	Primary education	Secondary/Above
	(N=556)	(N=415)	(N=81)	(N=60)
Neither agree nor disagree	16 (23.5%)	12 (24.0%)	4 (33.3%)	0 (0%)
Strongly agree	4 (5.88%)	4 (8.00%)	0 (0%)	0 (0%)
Strongly disagree	3 (4.41%)	2 (4.00%)	1 (8.33%)	0 (0%)
I would not like to get vaccinated, but I get vaccinated because I am forced				
Disagree	25 (36.8%)	18 (36.0%)	3 (25.0%)	4 (66.7%)
Neither agree nor disagree	19 (27.9%)	12 (24.0%)	5 (41.7%)	2 (33.3%)
Agree	15 (22.1%)	12 (24.0%)	3 (25.0%)	0 (0%)
Strongly disagree	6 (8.82%)	5 (10.0%)	1 (8.33%)	0 (0%)
Strongly agree	3 (4.41%)	3 (6.00%)	0 (0%)	0 (0%)
Concerned about COVID-19 vaccine serious side effects				
Very concerned	92 (16.5%)	65 (15.7%)	12 (14.8%)	15 (25.0%)
Moderately concerned	68 (12.2%)	51 (12.3%)	11 (13.6%)	6 (10.0%)
A little concerned	266 (47.8%)	204 (49.2%)	38 (46.9%)	24 (40.0%)
Not at all concerned	130 (23.4%)	95 (22.9%)	20 (24.7%)	15 (25.0%)
Willingness to get a COVID-19 vaccine				
Very much	51 (9.17%)	37 (8.92%)	5 (6.17%)	9 (15.0%)
Moderately	131 (23.6%)	92 (22.2%)	22 (27.2%)	17 (28.3%)
A little	312 (56.1%)	243 (58.6%)	40 (49.4%)	29 (48.3%)
Not at all	62 (11.2%)	43 (10.4%)	14 (17.3%)	5 (8.33%)
Preferred Location of getting COVID-19 vaccine				
Hospital	417 (75.0%)	315 (75.9%)	60 (74.1%)	42 (70.0%)
Health Center/Clinic	130 (23.4%)	94 (22.7%)	19 (23.5%)	17 (28.3%)
Workplace	28 (5.04%)	14 (3.37%)	5 (6.17%)	9 (15.0%)
Pharmacy	6 (1.08%)	3 (0.723%)	1 (1.23%)	2 (3.33%)
Community center, meeting room, local store	15 (2.70%)	7 (1.69%)	2 (2.47%)	6 (10.0%)
University	1 (0.180%)	1 (0.241%)	0 (0%)	0 (0%)
Shopping Center	4 (0.719%)	4 (0.964%)	0 (0%)	0 (0%)
School near the place of residence	70 (12.6%)	41 (9.88%)	16 (19.8%)	13 (21.7%)
Residential Area	30 (5.40%)	29 (6.99%)	1 (1.23%)	0 (0%)
I don't want to get vaccinated	31 (5.58%)	23 (5.54%)	8 (9.88%)	0 (0%)
Other	1 (0.180%)	1 (0.241%)	0 (0%)	0 (0%)
Final say on getting COVID-19 vaccine (from family)				
Participant, itself	347 (62.4%)	265 (63.9%)	49 (60.5%)	33 (55.0%)
Spouse/partner	79 (14.2%)	72 (17.3%)	6 (7.41%)	1 (1.67%)
Father	64 (11.5%)	32 (7.71%)	17 (21.0%)	15 (25.0%)
Mother	31 (5.58%)	15 (3.61%)	7 (8.64%)	9 (15.0%)
His/her child	30 (5.40%)	29 (6.99%)	0 (0%)	1 (1.67%)
Someone else	5 (0.899%)	2 (0.482%)	2 (2.47%)	1 (1.67%)
Family and close friends willing to get a COVID-19 vaccine				
Yes	295 (53.1%)	224 (54.0%)	40 (49.4%)	31 (51.7%)
No	160 (28.8%)	118 (28.4%)	23 (28.4%)	19 (31.7%)

	Overall	No Formal Education	Primary education	Secondary/Above
	(N=556)	(N=415)	(N=81)	(N=60)
Don't Know	101 (18.2%)	73 (17.6%)	18 (22.2%)	10 (16.7%)
Trust on healthcare providers giving COVID-19 vaccine				
Very much	66 (11.9%)	50 (12.0%)	9 (11.1%)	7 (11.7%)
Moderately	105 (18.9%)	66 (15.9%)	21 (25.9%)	18 (30.0%)
A little	290 (52.2%)	228 (54.9%)	37 (45.7%)	25 (41.7%)
Not at all	95 (17.1%)	71 (17.1%)	14 (17.3%)	10 (16.7%)
Main difficulties for the population to NOT get the COVID-19 vaccine				
Nothing. It is not difficult	254 (45.7%)	185 (44.6%)	39 (48.1%)	30 (50.0%)
The vaccination site is too far away	70 (12.6%)	50 (12.0%)	12 (14.8%)	8 (13.3%)
The COVID-19 vaccine is not available for a given group	50 (8.99%)	40 (9.64%)	3 (3.70%)	7 (11.7%)
They can't go on their own (they have physical limitation)	57 (10.3%)	43 (10.4%)	10 (12.3%)	4 (6.67%)
It is difficult to register for vaccination	48 (8.63%)	32 (7.71%)	12 (14.8%)	4 (6.67%)
They do not have the internet or a smartphone to register for vaccination	34 (6.12%)	17 (4.10%)	14 (17.3%)	3 (5.00%)
The waiting time is too long	32 (5.76%)	22 (5.30%)	3 (3.70%)	7 (11.7%)
Don't have valid documents/CNIC	28 (5.04%)	22 (5.30%)	4 (4.94%)	2 (3.33%)
People are turned away without vaccination	29 (5.22%)	19 (4.58%)	3 (3.70%)	7 (11.7%)
Opening hours are inconvenient	26 (4.68%)	20 (4.82%)	3 (3.70%)	3 (5.00%)
Vaccination costs too much	24 (4.32%)	23 (5.54%)	0 (0%)	1 (1.67%)
No permission from male members of family	18 (3.24%)	17 (4.10%)	0 (0%)	1 (1.67%)
Misconception spread by peoples	15 (2.70%)	5 (1.20%)	6 (7.41%)	4 (6.67%)
No awareness about vaccines	9 (1.62%)	9 (2.17%)	0 (0%)	0 (0%)
Others	58 (10.4%)	52 (12.5%)	4 (4.94%)	2 (3.33%)
Main source of information about the COVID-19 vaccination process				
Local newspapers, radio and/or television channels	328 (59.0%)	238 (57.3%)	56 (69.1%)	34 (56.7%)
Foreign newspapers, radio and/or television channels	161 (29.0%)	121 (29.2%)	27 (33.3%)	13 (21.7%)
Family and/or social network in your home country	138 (24.8%)	111 (26.7%)	13 (16.0%)	14 (23.3%)
Social media	99 (17.8%)	54 (13.0%)	20 (24.7%)	25 (41.7%)
Family or social network in country you are currently living	85 (15.3%)	66 (15.9%)	11 (13.6%)	8 (13.3%)
Local authorities' statements	79 (14.2%)	49 (11.8%)	16 (19.8%)	14 (23.3%)
Camp staff	78 (14.0%)	56 (13.5%)	12 (14.8%)	10 (16.7%)
At your workplace	59 (10.6%)	29 (6.99%)	13 (16.0%)	17 (28.3%)
Brochures	49 (8.81%)	30 (7.23%)	9 (11.1%)	10 (16.7%)
Local government websites	43 (7.73%)	29 (6.99%)	7 (8.64%)	7 (11.7%)
Internet and/or social networks	21 (3.78%)	13 (3.13%)	5 (6.17%)	3 (5.00%)
NGO's	19 (3.42%)	9 (2.17%)	4 (4.94%)	6 (10.0%)
I have not received information about COVID-19 vaccination	6 (1.08%)	5 (1.20%)	1 (1.23%)	0 (0%)
School Teacher	4 (0.719%)	4 (0.964%)	0 (0%)	0 (0%)
Others	4 (0.719%)	4 (0.964%)	0 (0%)	0 (0%)
Know about types of vaccines (brands) available for COVID-19				
Yes	111 (20.0%)	81 (19.5%)	13 (16.0%)	17 (28.3%)

	Overall	No Formal Education	Primary education	Secondary/Above
	(N=556)	(N=415)	(N=81)	(N=60)
No	320 (57.6%)	249 (60.0%)	50 (61.7%)	21 (35.0%)
I am Not Sure	125 (22.5%)	85 (20.5%)	18 (22.2%)	22 (36.7%)
Know about place of getting COVID-19 vaccination				
Yes	315 (56.7%)	227 (54.7%)	51 (63.0%)	37 (61.7%)
No	134 (24.1%)	102 (24.6%)	17 (21.0%)	15 (25.0%)
I am Not Sure	107 (19.2%)	86 (20.7%)	13 (16.0%)	8 (13.3%)
Place of getting COVID-19 vaccine				
Hospital	287 (91.1%)	203 (89.4%)	49 (96.1%)	35 (94.6%)
Health Center/Clinic	90 (28.6%)	64 (28.2%)	15 (29.4%)	11 (29.7%)
Workplace	19 (6.03%)	11 (4.85%)	3 (5.88%)	5 (13.5%)
Community center, meeting room, or local store	15 (4.76%)	8 (3.52%)	4 (7.84%)	3 (8.11%)
Pharmacy	5 (1.59%)	4 (1.76%)	1 (1.96%)	0 (0%)
Shopping Center	4 (1.27%)	1 (0.441%)	1 (1.96%)	2 (5.41%)
School	3 (0.952%)	2 (0.881%)	0 (0%)	1 (2.70%)
University	2 (0.635%)	1 (0.441%)	0 (0%)	1 (2.70%)
Other	3 (0.952%)	2 (0.881%)	0 (0%)	1 (2.70%)
I don't want to get vaccinated	14 (4.44%)	8 (3.52%)	2 (3.92%)	4 (10.8%)
Have you observed/heard any comment about the COVID-19 vaccination for refugees/migrants?				
Yes	116 (20.9%)	81 (19.5%)	19 (23.5%)	16 (26.7%)
No	350 (62.9%)	257 (61.9%)	58 (71.6%)	35 (58.3%)
I am Not Sure	90 (16.2%)	77 (18.6%)	4 (4.94%)	9 (15.0%)
Comments Observed/heard about the COVID-19 vaccination for refugees/migrants				
Request documentation to administer the dose	40 (34.5%)	28 (34.6%)	2 (10.5%)	10 (62.5%)
Only national people have access	24 (20.7%)	23 (28.4%)	1 (5.26%)	0 (0%)
Dangerous for health	15 (2.70%)	4 (0.964%)	8 (9.88%)	3 (5.00%)
Deport people without documentation	12 (10.3%)	10 (12.3%)	1 (5.26%)	1 (6.25%)
Other (<i>No valid documents/CNIC</i>)	7 (1.26%)	5 (1.20%)	1 (1.23%)	1 (1.67%)
Don't know/don't remember	18 (15.5%)	11 (13.6%)	6 (31.6%)	1 (6.25%)
Funder of vaccination process in the country				
Government	383 (68.9%)	296 (71.3%)	50 (61.7%)	37 (61.7%)
NGOs	25 (4.50%)	14 (3.37%)	7 (8.64%)	4 (6.67%)
Private company	5 (0.899%)	4 (0.964%)	1 (1.23%)	0 (0%)
Other	1 (0.180%)	1 (0.241%)	0 (0%)	0 (0%)
Don't know	153 (27.5%)	104 (25.1%)	28 (34.6%)	21 (35.0%)
Made any payment or contribution to be vaccinated against COVID-19				
Paid to get an appointment	20 (3.60%)	17 (4.10%)	1 (1.23%)	2 (3.33%)
Bought the syringes	1 (0.180%)	1 (0.241%)	0 (0%)	0 (0%)
Paid to get a vaccination certificate	8 (1.44%)	6 (1.45%)	2 (2.47%)	0 (0%)
Totally free of charge	284 (51.1%)	206 (49.6%)	39 (48.1%)	39 (65.0%)
I have not been vaccinated	247 (44.4%)	188 (45.3%)	40 (49.4%)	19 (31.7%)
Other	1 (0.180%)	1 (0.241%)	0 (0%)	0 (0%)

	Overall	No Formal Education	Primary education	Secondary/Above
	(N=556)	(N=415)	(N=81)	(N=60)
Received a vaccination card or information on where to find a vaccination card after getting vaccinated				
Yes	281 (90.9%)	209 (92.1%)	34 (82.9%)	38 (92.7%)
No	23 (7.44%)	16 (7.05%)	5 (12.2%)	2 (4.88%)
Don't Know / Don't Remember	5 (1.62%)	2 (0.881%)	2 (4.88%)	1 (2.44%)
Have a vaccination card or certificate				
Yes	257 (83.2%)	190 (83.7%)	31 (75.6%)	36 (87.8%)
No	50 (16.2%)	36 (15.9%)	9 (22.0%)	5 (12.2%)
Don't know	2 (0.647%)	1 (0.441%)	1 (2.44%)	0 (0%)
Place of obtaining the vaccination card or certificate				
Vaccination center	205 (79.8%)	161 (84.7%)	22 (71.0%)	22 (61.1%)
Website	42 (16.3%)	27 (14.2%)	5 (16.1%)	10 (27.8%)
From a different health facility	10 (3.89%)	2 (1.05%)	4 (12.9%)	4 (11.1%)
Faced any problem acquiring the vaccination card or certificate				
No	235 (91.4%)	171 (90.0%)	31 (100%)	33 (91.7%)
System showed an error	18 (7.00%)	16 (8.42%)	0 (0%)	2 (5.56%)
Data was not correct	3 (1.17%)	3 (1.58%)	0 (0%)	0 (0%)
Other	1 (0.389%)	0 (0%)	0 (0%)	1 (2.78%)
Ever been denied access to vaccination because of no identity document				
Yes	18 (5.83%)	13 (5.73%)	1 (2.44%)	4 (9.76%)
No	271 (87.7%)	204 (89.9%)	37 (90.2%)	30 (73.2%)
Don't Know / Don't Remember	20 (6.47%)	10 (4.41%)	3 (7.32%)	7 (17.1%)
A special code was generated in case of unavailability of ID card at the time of vaccination				
Yes	8 (44.4%)	6 (46.2%)	1 (100%)	1 (25.0%)
No	5 (27.8%)	5 (38.5%)	0 (0%)	0 (0%)
Was not allowed to get vaccinated	3 (16.7%)	2 (15.4%)	0 (0%)	1 (25.0%)
Not Applicable	2 (11.1%)	0 (0%)	0 (0%)	2 (50.0%)
Vaccination plan implemented in residing country was more accessible to people in mobility compared to other neighboring countries				
Yes	99 (17.8%)	76 (18.3%)	9 (11.1%)	14 (23.3%)
No	109 (19.6%)	81 (19.5%)	14 (17.3%)	14 (23.3%)
Don't know how it was in another country	179 (32.2%)	137 (33.0%)	30 (37.0%)	12 (20.0%)
Don't Know / Don't Remember	169 (30.4%)	121 (29.2%)	28 (34.6%)	20 (33.3%)
Witnessed any kind of discrimination during the vaccination process				
Did not witness any act of discrimination	477 (85.8%)	347 (83.6%)	77 (95.1%)	53 (88.3%)
Yes, to myself	52 (9.35%)	45 (10.8%)	3 (3.70%)	4 (6.67%)
Yes, to a migrant person	17 (3.06%)	17 (4.10%)	0 (0%)	0 (0%)
Yes, to the general public	15 (2.70%)	9 (2.17%)	2 (2.47%)	4 (6.67%)
Act of discrimination was from:				
Health center staff	49 (58.3%)	40 (56.3%)	4 (80.0%)	5 (62.5%)
Security personnel	28 (33.3%)	26 (36.6%)	1 (20.0%)	1 (12.5%)
Local population	9 (10.7%)	7 (9.86%)	0 (0%)	2 (25.0%)

	Overall	No Formal Education	Primary education	Secondary/Above
	(N=556)	(N=415)	(N=81)	(N=60)
Other	2 (2.38%)	1 (1.41%)	0 (0%)	1 (12.5%)
Facilitators of COVID-19 vaccination process				
Timely information has been provided	193 (34.7%)	151 (36.4%)	26 (32.1%)	16 (26.7%)
Vaccination centers have been set up in different areas of city	174 (31.3%)	136 (32.8%)	28 (34.6%)	10 (16.7%)
I don't know	235 (42.3%)	167 (40.2%)	35 (43.2%)	33 (55.0%)
None	11 (1.98%)	9 (2.17%)	1 (1.23%)	1 (1.67%)
Perceived any differences in the way of treatment for vaccinations compared to the majority population				
Yes	161 (29.0%)	128 (30.8%)	18 (22.2%)	15 (25.0%)
No	217 (39.0%)	146 (35.2%)	39 (48.1%)	32 (53.3%)
Don't Know / Don't Remember	178 (32.0%)	141 (34.0%)	24 (29.6%)	13 (21.7%)
The national government's campaign was successful in getting migrants to go to vaccination centers				
Yes	238 (42.8%)	180 (43.4%)	35 (43.2%)	23 (38.3%)
No	106 (19.1%)	73 (17.6%)	15 (18.5%)	18 (30.0%)
Don't Know / Don't Remember	212 (38.1%)	162 (39.0%)	31 (38.3%)	19 (31.7%)
Health centers set up at the national level are accessible by the community				
Yes	230 (41.4%)	169 (40.7%)	34 (42.0%)	27 (45.0%)
No	128 (23.0%)	87 (21.0%)	23 (28.4%)	18 (30.0%)
Don't Know / Don't Remember	198 (35.6%)	159 (38.3%)	24 (29.6%)	15 (25.0%)
Time to reach the nearest vaccination center from home				
Between 30 min to 1 hour	269 (48.4%)	189 (45.5%)	41 (50.6%)	39 (65.0%)
Less than 15 min	208 (37.4%)	171 (41.2%)	27 (33.3%)	10 (16.7%)
Between 1 to 2 hours	60 (10.8%)	42 (10.1%)	13 (16.0%)	5 (8.33%)
More than 2 hours	18 (3.24%)	13 (3.13%)	0 (0%)	5 (8.33%)
Outside my province	1 (0.180%)	0 (0%)	0 (0%)	1 (1.67%)
Vaccination centers hygienic for people				
Yes	292 (52.5%)	229 (55.2%)	40 (49.4%)	23 (38.3%)
No	96 (17.3%)	63 (15.2%)	18 (22.2%)	15 (25.0%)
Don't Know / Don't Remember	168 (30.2%)	123 (29.6%)	23 (28.4%)	22 (36.7%)
National government provided adequate information on the percentage of vaccinated people per region				
Yes	256 (46.0%)	202 (48.7%)	33 (40.7%)	21 (35.0%)
No	102 (18.3%)	74 (17.8%)	14 (17.3%)	14 (23.3%)
Don't Know / Don't Remember	198 (35.6%)	139 (33.5%)	34 (42.0%)	25 (41.7%)
Was there a clear, precise and transparent communication from the national and local government on the situation of COVID 19				
Yes	271 (48.7%)	208 (50.1%)	36 (44.4%)	27 (45.0%)
No	85 (15.3%)	62 (14.9%)	12 (14.8%)	11 (18.3%)
Don't Know / Don't Remember	200 (36.0%)	145 (34.9%)	33 (40.7%)	22 (36.7%)

Supplementary Table 16: COVID-19 vaccination among migrants (by Immigration Status)

	Overall	Regular	Irregular	Refugee
	(N=570)	(N=370)	(N=131)	(N=69)
Years of Living				
More than 5 years	540 (94.7%)	350 (94.6%)	126 (96.2%)	64 (92.8%)
Less Than 5 Years	30 (5.26%)	20 (5.41%)	5 (3.82%)	5 (7.25%)
Immigration status				
Regular (with valid documents)	370 (64.9%)	370 (100%)	0 (0%)	0 (0%)
Irregular (no valid documents, pending, expired)	131 (23.0%)	0 (0%)	131 (100%)	0 (0%)
Refugee	69 (12.1%)	0 (0%)	0 (0%)	69 (100%)
Gender				
Female	294 (51.6%)	203 (54.9%)	69 (52.7%)	22 (31.9%)
Male	276 (48.4%)	167 (45.1%)	62 (47.3%)	47 (68.1%)
Age				
Less than 18	71 (12.5%)	26 (7.03%)	18 (13.7%)	27 (39.1%)
18 – 49	200 (35.1%)	135 (36.5%)	50 (38.2%)	15 (21.7%)
50 – 59	141 (24.7%)	101 (27.3%)	26 (19.8%)	14 (20.3%)
60 or more	158 (27.7%)	108 (29.2%)	37 (28.2%)	13 (18.8%)
Household members				
Spouse/partner	406 (71.2%)	286 (77.3%)	85 (64.9%)	35 (50.7%)
Daughter/Son	441 (77.4%)	309 (83.5%)	93 (71.0%)	39 (56.5%)
Mother/Father	212 (37.2%)	115 (31.1%)	48 (36.6%)	49 (71.0%)
Sister/Brother	212 (37.2%)	113 (30.5%)	51 (38.9%)	48 (69.6%)
Daughter-in-law/Brother-in-law	131 (23.0%)	99 (26.8%)	18 (13.7%)	14 (20.3%)
Grandchildren	126 (22.1%)	99 (26.8%)	15 (11.5%)	12 (17.4%)
Mother-in-law/Father-in-law	45 (7.89%)	34 (9.19%)	5 (3.82%)	6 (8.70%)
Grandfather/Grandmother	31 (5.44%)	19 (5.14%)	4 (3.05%)	8 (11.6%)
Non-relative	14 (2.46%)	8 (2.16%)	3 (2.29%)	3 (4.35%)
Other Relative	9 (1.58%)	5 (1.35%)	1 (0.763%)	3 (4.35%)
Minors under responsibility				
Yes, full time	256 (44.9%)	176 (47.6%)	59 (45.0%)	21 (30.4%)
Yes, part-time	61 (10.7%)	42 (11.4%)	10 (7.63%)	9 (13.0%)
No	236 (41.4%)	146 (39.5%)	59 (45.0%)	31 (44.9%)
Don't know/don't remember	17 (2.98%)	6 (1.62%)	3 (2.29%)	8 (11.6%)
Education				
Formal education not completed	415 (72.8%)	271 (73.2%)	100 (76.3%)	44 (63.8%)
Primary education	81 (14.2%)	49 (13.2%)	16 (12.2%)	16 (23.2%)
Secondary/Above	60 (10.5%)	42 (11.4%)	12 (9.16%)	6 (8.70%)
I prefer not to say	14 (2.46%)	8 (2.16%)	3 (2.29%)	3 (4.35%)
Participants at risk of COVID-19				
Do not belong to any risk group	351 (61.6%)	215 (58.1%)	85 (64.9%)	51 (73.9%)
60 years or older	124 (21.8%)	84 (22.7%)	30 (22.9%)	10 (14.5%)
Heart disease or high blood pressure	54 (9.47%)	43 (11.6%)	7 (5.34%)	4 (5.80%)
Diabetes	19 (3.33%)	13 (3.51%)	4 (3.05%)	2 (2.90%)

	Overall	Regular	Irregular	Refugee
	(N=570)	(N=370)	(N=131)	(N=69)
Chronic lung diseases	8 (1.40%)	4 (1.08%)	3 (2.29%)	1 (1.45%)
Obesity	8 (1.40%)	7 (1.89%)	0 (0%)	1 (1.45%)
Weak immune system (including cancer, HIV)	6 (1.05%)	4 (1.08%)	2 (1.53%)	0 (0%)
Infected with COVID-19				
Yes	26 (4.56%)	19 (5.14%)	4 (3.05%)	3 (4.35%)
No	459 (80.5%)	288 (77.8%)	122 (93.1%)	49 (71.0%)
Don't Know	85 (14.9%)	63 (17.0%)	5 (3.82%)	17 (24.6%)
Had access to the COVID-19 vaccination before getting infected				
Yes	19 (73.1%)	13 (68.4%)	4 (100%)	2 (66.7%)
No	3 (11.5%)	3 (15.8%)	0 (0%)	0 (0%)
Don't Know	4 (15.4%)	3 (15.8%)	0 (0%)	1 (33.3%)
Reason of not getting vaccinated				
Rejected because he/she was a foreigner	3 (42.9%)	2 (33.3%)	NA	1 (100%)
Vaccination had not started in the country	3 (42.9%)	3 (50.0%)	NA	0 (0%)
Not willing to get the vaccine	1 (14.3%)	1 (16.7%)	NA	0 (0%)
COVID-19 confirmed by a test				
Yes	7 (26.9%)	7 (36.8%)	0 (0%)	0 (0%)
No	17 (65.4%)	11 (57.9%)	4 (100%)	2 (66.7%)
Don't Know	2 (7.69%)	1 (5.26%)	0 (0%)	1 (33.3%)
Hospitalization				
Yes	1 (3.85%)	1 (5.26%)	0 (0%)	0 (0%)
No	23 (88.5%)	17 (89.5%)	4 (100%)	2 (66.7%)
Don't Know	2 (7.69%)	1 (5.26%)	0 (0%)	1 (33.3%)
Measures taken to avoid the spread of the coronavirus				
Washed hands / used disinfectants more often	383 (70.4%)	261 (74.4%)	80 (63.0%)	42 (63.6%)
Generally, more careful with washing and cleaning	307 (56.4%)	207 (59.0%)	70 (55.1%)	30 (45.5%)
Used protective equipment such as a face mask	209 (38.4%)	118 (33.6%)	68 (53.5%)	23 (34.8%)
Kept at least one meter away from other persons	139 (25.6%)	81 (23.1%)	44 (34.6%)	14 (21.2%)
Kept away from crowds	137 (25.2%)	97 (27.6%)	27 (21.3%)	13 (19.7%)
Avoided public gatherings	117 (21.5%)	76 (21.7%)	30 (23.6%)	11 (16.7%)
Canceled or postponed travels	56 (10.3%)	36 (10.3%)	11 (8.66%)	9 (13.6%)
Used less public transportation	49 (9.01%)	28 (7.98%)	14 (11.0%)	7 (10.6%)
Worked from home (had home office) more often than usual	35 (6.43%)	22 (6.27%)	10 (7.87%)	3 (4.55%)
No, not done any of the above	20 (3.68%)	13 (3.70%)	1 (0.787%)	6 (9.09%)
Offered COVID-19 vaccine				
Yes	376 (66.0%)	245 (66.2%)	94 (71.8%)	37 (53.6%)
No	163 (28.6%)	107 (28.9%)	35 (26.7%)	21 (30.4%)
Don't Know	31 (5.44%)	18 (4.86%)	2 (1.53%)	11 (15.9%)
Plan to get vaccinated against COVID-19				
Yes	66 (34.0%)	32 (25.6%)	13 (35.1%)	21 (65.6%)
No	115 (59.3%)	83 (66.4%)	24 (64.9%)	8 (25.0%)

	Overall	Regular	Irregular	Refugee
	(N=570)	(N=370)	(N=131)	(N=69)
Don't Know	13 (6.70%)	10 (8.00%)	0 (0%)	3 (9.38%)
Reasons of not taking COVID-19 vaccine				
Risk of adverse reactions to COVID-19 vaccines	64 (50.0%)	55 (59.1%)	6 (25.0%)	3 (27.3%)
CNIC Not Available	11 (8.59%)	1 (1.08%)	10 (41.7%)	0 (0%)
Afraid of/do not like doctors/syringes	11 (8.59%)	9 (9.68%)	1 (4.17%)	1 (9.09%)
Not comfortable with the new COVID-19 vaccine	10 (7.81%)	6 (6.45%)	2 (8.33%)	2 (18.2%)
Permission Problem	9 (7.03%)	8 (8.60%)	1 (4.17%)	0 (0%)
COVID-19 vaccines does not work	8 (6.25%)	8 (8.60%)	0 (0%)	0 (0%)
Adverse reactions to previous vaccines (others than the COVID-19 vaccine)	7 (5.47%)	4 (4.30%)	3 (12.5%)	0 (0%)
Do not feel the need to protect myself	6 (4.69%)	5 (5.38%)	1 (4.17%)	0 (0%)
There is too little experience with the use of the vaccine	6 (4.69%)	4 (4.30%)	1 (4.17%)	1 (9.09%)
There is not much COVID-19 infection in the community	4 (3.13%)	3 (3.23%)	1 (4.17%)	0 (0%)
Lack of Knowledge	4 (3.13%)	2 (2.15%)	1 (4.17%)	1 (9.09%)
I don't need the vaccine: rarely/never sick, I don't belong to the priority group	3 (2.34%)	1 (1.08%)	1 (4.17%)	1 (9.09%)
Want the body to develop natural immunity	3 (2.34%)	1 (1.08%)	2 (8.33%)	0 (0%)
Do not trust the recommendation from the health authorities/municipality	3 (2.34%)	2 (2.15%)	1 (4.17%)	0 (0%)
Others	2 (1.56%)	1 (1.08%)	1 (4.17%)	0 (0%)
I do not need to protect my family/community	2 (1.56%)	1 (1.08%)	1 (4.17%)	0 (0%)
Information from the media	1 (0.781%)	1 (1.08%)	0 (0%)	0 (0%)
Political reasons (antigovernment feelings)	1 (0.781%)	1 (1.08%)	0 (0%)	0 (0%)
Received the full doses of the COVID-19 vaccine				
Yes	248 (66.0%)	182 (74.3%)	49 (52.1%)	17 (45.9%)
Partially	66 (17.6%)	41 (16.7%)	18 (19.1%)	7 (18.9%)
No	54 (14.4%)	20 (8.16%)	24 (25.5%)	10 (27.0%)
Don't Know	8 (2.13%)	2 (0.816%)	3 (3.19%)	3 (8.11%)
Doses received				
One	103 (32.8%)	65 (29.1%)	25 (37.3%)	13 (54.2%)
Two	199 (63.4%)	150 (67.3%)	38 (56.7%)	11 (45.8%)
Three	12 (3.82%)	8 (3.59%)	4 (5.97%)	0 (0%)
Month of receiving the first dose of the COVID-19 vaccine				
JAN – MAR	148 (47.1%)	102 (45.7%)	30 (44.8%)	16 (66.7%)
APR – JUN	22 (7.01%)	8 (3.59%)	14 (20.9%)	0 (0%)
JUL – SEP	68 (21.7%)	53 (23.8%)	13 (19.4%)	2 (8.33%)
OCT – DEC	35 (11.1%)	26 (11.7%)	5 (7.46%)	4 (16.7%)
Don't Know / Don't Remember	41 (13.1%)	34 (15.2%)	5 (7.46%)	2 (8.33%)
Year of receiving the first dose of the COVID-19 vaccine				
2020	4 (1.27%)	3 (1.35%)	1 (1.49%)	0 (0%)
2021	186 (59.2%)	135 (60.5%)	39 (58.2%)	12 (50.0%)
2022	124 (39.5%)	85 (38.1%)	27 (40.3%)	12 (50.0%)
Vaccine brand of first dose				
Sinovac	65 (20.7%)	45 (20.2%)	16 (23.9%)	4 (16.7%)

	Overall	Regular	Irregular	Refugee
	(N=570)	(N=370)	(N=131)	(N=69)
Pfizer	63 (20.1%)	46 (20.6%)	13 (19.4%)	4 (16.7%)
Moderna	40 (12.7%)	29 (13.0%)	7 (10.4%)	4 (16.7%)
CanSino	33 (10.5%)	20 (8.97%)	8 (11.9%)	5 (20.8%)
Sinopharm	27 (8.60%)	18 (8.07%)	9 (13.4%)	0 (0%)
AstraZeneca	4 (1.27%)	2 (0.897%)	1 (1.49%)	1 (4.17%)
Pak vaccine	3 (0.955%)	3 (1.35%)	0 (0%)	0 (0%)
Johnson & Johnson	1 (0.318%)	1 (0.448%)	0 (0%)	0 (0%)
Don't Know / Don't Remember	78 (24.8%)	59 (26.5%)	13 (19.4%)	6 (25.0%)
Month of receiving the second dose of the COVID-19 vaccine				
JAN – MAR	78 (27.9%)	57 (28.2%)	14 (23.7%)	7 (36.8%)
APR – JUN	27 (9.64%)	19 (9.41%)	8 (13.6%)	0 (0%)
JUL – SEP	35 (12.5%)	24 (11.9%)	10 (16.9%)	1 (5.26%)
OCT – DEC	43 (15.4%)	36 (17.8%)	5 (8.47%)	2 (10.5%)
Un-Vaccinated	69 (24.6%)	44 (21.8%)	17 (28.8%)	8 (42.1%)
Don't Remember	28 (10.0%)	22 (10.9%)	5 (8.47%)	1 (5.26%)
Year of receiving the second dose of the COVID-19 vaccine				
2021	116 (55.0%)	89 (56.3%)	23 (54.8%)	4 (36.4%)
2022	95 (45.0%)	69 (43.7%)	19 (45.2%)	7 (63.6%)
Vaccine brand of second dose				
Pfizer	60 (28.4%)	46 (29.1%)	10 (23.8%)	4 (36.4%)
Sinovac	52 (24.6%)	39 (24.7%)	11 (26.2%)	2 (18.2%)
Moderna	34 (16.1%)	27 (17.1%)	4 (9.52%)	3 (27.3%)
Sinopharm	21 (9.95%)	15 (9.49%)	6 (14.3%)	0 (0%)
AstraZeneca	3 (1.42%)	1 (0.633%)	1 (2.38%)	1 (9.09%)
Covaxin	1 (0.474%)	1 (0.633%)	0 (0%)	0 (0%)
Sputnik V	1 (0.474%)	1 (0.633%)	0 (0%)	0 (0%)
Don't Know / Don't Remember	39 (18.5%)	28 (17.7%)	10 (23.8%)	1 (9.09%)
Month of receiving the booster dose				
JAN – MAR	8 (3.27%)	6 (3.35%)	2 (4.00%)	0 (0%)
APR – JUN	2 (0.816%)	1 (0.559%)	1 (2.00%)	0 (0%)
Un-Vaccinated	233 (95.1%)	171 (95.5%)	46 (92.0%)	16 (100%)
Don't Know / Don't Remember	2 (0.816%)	1 (0.559%)	1 (2.00%)	0 (0%)
Year of receiving the booster dose				
2022	10 (83.3%)	7 (87.5%)	3 (75.0%)	NA
2021	2 (16.7%)	1 (12.5%)	1 (25.0%)	NA
Vaccine brand of booster dose				
Pfizer	3 (25.0%)	1 (12.5%)	2 (50.0%)	NA
Moderna	3 (25.0%)	2 (25.0%)	1 (25.0%)	NA
CanSino	2 (16.7%)	2 (25.0%)	0 (0%)	NA
Sinovac	1 (8.33%)	1 (12.5%)	0 (0%)	NA
Sinopharm	1 (8.33%)	1 (12.5%)	0 (0%)	NA

	Overall	Regular	Irregular	Refugee
	(N=570)	(N=370)	(N=131)	(N=69)
Don't Know / Don't Remember	2 (16.7%)	1 (12.5%)	1 (25.0%)	NA
Experienced any side effect after vaccination				
Yes	5 (41.7%)	3 (37.5%)	2 (50.0%)	NA
No	6 (50.0%)	4 (50.0%)	2 (50.0%)	NA
Don't Know	1 (8.33%)	1 (12.5%)	0 (0%)	NA
Type of side effects experienced				
Fever	5 (100%)	3 (100%)	2 (100%)	NA
The vaccine is highly reliable				
Agree	33 (44.6%)	16 (53.3%)	15 (48.4%)	2 (15.4%)
Disagree	24 (32.4%)	7 (23.3%)	10 (32.3%)	7 (53.8%)
Neither agree nor disagree	10 (13.5%)	5 (16.7%)	1 (3.23%)	4 (30.8%)
Strongly agree	5 (6.76%)	0 (0%)	5 (16.1%)	0 (0%)
Strongly disagree	2 (2.70%)	2 (6.67%)	0 (0%)	0 (0%)
The vaccine is a government requirement				
Agree	31 (41.9%)	16 (53.3%)	13 (41.9%)	2 (15.4%)
Disagree	18 (24.3%)	4 (13.3%)	7 (22.6%)	7 (53.8%)
Neither agree nor disagree	17 (23.0%)	7 (23.3%)	6 (19.4%)	4 (30.8%)
Strongly agree	4 (5.41%)	0 (0%)	4 (12.9%)	0 (0%)
Strongly disagree	4 (5.41%)	3 (10.0%)	1 (3.23%)	0 (0%)
The vaccine protects my family, friends and community				
Agree	28 (37.8%)	12 (40.0%)	13 (41.9%)	3 (23.1%)
Neither agree nor disagree	21 (28.4%)	8 (26.7%)	9 (29.0%)	4 (30.8%)
Disagree	21 (28.4%)	8 (26.7%)	7 (22.6%)	6 (46.2%)
Strongly agree	2 (2.70%)	0 (0%)	2 (6.45%)	0 (0%)
Strongly disagree	2 (2.70%)	2 (6.67%)	0 (0%)	0 (0%)
The vaccine is a requirement to enter establishments				
Disagree	25 (33.8%)	9 (30.0%)	7 (22.6%)	9 (69.2%)
Agree	23 (31.1%)	10 (33.3%)	11 (35.5%)	2 (15.4%)
Neither agree nor disagree	20 (27.0%)	9 (30.0%)	9 (29.0%)	2 (15.4%)
Strongly agree	4 (5.41%)	0 (0%)	4 (12.9%)	0 (0%)
Strongly disagree	2 (2.70%)	2 (6.67%)	0 (0%)	0 (0%)
Getting vaccinated is my duty				
Disagree	28 (37.8%)	12 (40.0%)	13 (41.9%)	3 (23.1%)
Neither agree nor disagree	21 (28.4%)	8 (26.7%)	9 (29.0%)	4 (30.8%)
Agree	21 (28.4%)	8 (26.7%)	7 (22.6%)	6 (46.2%)
Strongly disagree	2 (2.70%)	0 (0%)	2 (6.45%)	0 (0%)
Strongly agree	2 (2.70%)	2 (6.67%)	0 (0%)	0 (0%)
I get vaccinated because its safe				
Agree	25 (33.8%)	9 (30.0%)	7 (22.6%)	9 (69.2%)
Disagree	23 (31.1%)	10 (33.3%)	11 (35.5%)	2 (15.4%)
Neither agree nor disagree	20 (27.0%)	9 (30.0%)	9 (29.0%)	2 (15.4%)

	Overall	Regular	Irregular	Refugee
	(N=570)	(N=370)	(N=131)	(N=69)
Strongly agree	4 (5.41%)	0 (0%)	4 (12.9%)	0 (0%)
Strongly disagree	2 (2.70%)	2 (6.67%)	0 (0%)	0 (0%)
I would not like to get vaccinated, but I get vaccinated because I am forced				
Disagree	29 (39.2%)	13 (43.3%)	11 (35.5%)	5 (38.5%)
Neither agree nor disagree	19 (25.7%)	4 (13.3%)	9 (29.0%)	6 (46.2%)
Agree	16 (21.6%)	8 (26.7%)	7 (22.6%)	1 (7.69%)
Strongly disagree	7 (9.46%)	4 (13.3%)	2 (6.45%)	1 (7.69%)
Strongly agree	3 (4.05%)	1 (3.33%)	2 (6.45%)	0 (0%)
Concerned about COVID-19 vaccine serious side effects				
Very concerned	96 (16.8%)	60 (16.2%)	23 (17.6%)	13 (18.8%)
Moderately concerned	69 (12.1%)	41 (11.1%)	13 (9.92%)	15 (21.7%)
A little concerned	270 (47.4%)	183 (49.5%)	57 (43.5%)	30 (43.5%)
Not at all concerned	135 (23.7%)	86 (23.2%)	38 (29.0%)	11 (15.9%)
Willingness to get a COVID-19 vaccine				
Very much	53 (9.30%)	29 (7.84%)	21 (16.0%)	3 (4.35%)
Moderately	131 (23.0%)	80 (21.6%)	33 (25.2%)	18 (26.1%)
A little	318 (55.8%)	222 (60.0%)	58 (44.3%)	38 (55.1%)
Not at all	68 (11.9%)	39 (10.5%)	19 (14.5%)	10 (14.5%)
Preferred Location of getting COVID-19 vaccine				
Hospital	424 (74.4%)	271 (73.2%)	104 (79.4%)	49 (71.0%)
Health Center/Clinic	132 (23.2%)	91 (24.6%)	22 (16.8%)	19 (27.5%)
Workplace	28 (4.91%)	15 (4.05%)	3 (2.29%)	10 (14.5%)
Pharmacy	7 (1.23%)	5 (1.35%)	1 (0.763%)	1 (1.45%)
Community center, meeting room, local store	16 (2.81%)	12 (3.24%)	2 (1.53%)	2 (2.90%)
University	1 (0.175%)	0 (0%)	1 (0.763%)	0 (0%)
Shopping Center	4 (0.702%)	1 (0.270%)	2 (1.53%)	1 (1.45%)
School near the place of residence	71 (12.5%)	35 (9.46%)	19 (14.5%)	17 (24.6%)
Residential Area	30 (5.26%)	24 (6.49%)	4 (3.05%)	2 (2.90%)
I don't want to get vaccinated	36 (6.32%)	28 (7.57%)	3 (2.29%)	5 (7.25%)
Other	1 (0.175%)	1 (0.270%)	0 (0%)	0 (0%)
Final say on getting COVID-19 vaccine (from family)				
Participant, itself	359 (63.0%)	235 (63.5%)	85 (64.9%)	39 (56.5%)
Spouse/partner	79 (13.9%)	60 (16.2%)	16 (12.2%)	3 (4.35%)
Father	66 (11.6%)	31 (8.38%)	15 (11.5%)	20 (29.0%)
Mother	31 (5.44%)	22 (5.95%)	5 (3.82%)	4 (5.80%)
His/her child	30 (5.26%)	20 (5.41%)	9 (6.87%)	1 (1.45%)
Someone else	5 (0.877%)	2 (0.541%)	1 (0.763%)	2 (2.90%)
Family and close friends willing to get a COVID-19 vaccine				
Yes	303 (53.2%)	189 (51.1%)	78 (59.5%)	36 (52.2%)
No	104 (18.2%)	54 (14.6%)	35 (26.7%)	15 (21.7%)
Don't Know	163 (28.6%)	127 (34.3%)	18 (13.7%)	18 (26.1%)

	Overall	Regular	Irregular	Refugee
	(N=570)	(N=370)	(N=131)	(N=69)
Trust on healthcare providers giving COVID-19 vaccine				
Very much	68 (11.9%)	47 (12.7%)	15 (11.5%)	6 (8.70%)
Moderately	107 (18.8%)	62 (16.8%)	25 (19.1%)	20 (29.0%)
A little	294 (51.6%)	195 (52.7%)	68 (51.9%)	31 (44.9%)
Not at all	101 (17.7%)	66 (17.8%)	23 (17.6%)	12 (17.4%)
Main difficulties for the population to NOT get the COVID-19 vaccine				
Nothing. It is not difficult	259 (45.4%)	176 (47.6%)	62 (47.3%)	21 (30.4%)
The vaccination site is too far away	70 (12.3%)	40 (10.8%)	17 (13.0%)	13 (18.8%)
The COVID-19 vaccine is not available for a given group	50 (8.77%)	35 (9.46%)	11 (8.40%)	4 (5.80%)
They can't go on their own (they have physical limitation)	60 (10.5%)	33 (8.92%)	22 (16.8%)	5 (7.25%)
It is difficult to register for vaccination	50 (8.77%)	20 (5.41%)	22 (16.8%)	8 (11.6%)
They do not have the internet or a smartphone to register for vaccination	35 (6.14%)	19 (5.14%)	9 (6.87%)	7 (10.1%)
The waiting time is too long	32 (5.61%)	20 (5.41%)	10 (7.63%)	2 (2.90%)
Don't have valid documents/CNIC	31 (5.44%)	9 (2.43%)	19 (14.5%)	3 (4.35%)
People are turned away without vaccination	29 (5.09%)	15 (4.05%)	9 (6.87%)	5 (7.25%)
Opening hours are inconvenient	26 (4.56%)	12 (3.24%)	10 (7.63%)	4 (5.80%)
Vaccination costs too much	24 (4.21%)	17 (4.59%)	6 (4.58%)	1 (1.45%)
No permission from male members of family	18 (3.16%)	18 (4.86%)	0 (0%)	0 (0%)
Misconception spread by peoples	16 (2.81%)	13 (3.51%)	1 (0.763%)	2 (2.90%)
No awareness about vaccines	9 (1.58%)	8 (2.16%)	1 (0.763%)	0 (0%)
Others	62 (10.9%)	49 (13.2%)	1 (0.763%)	12 (17.4%)
Main source of information about the COVID-19 vaccination process				
Local newspapers, radio and/or television channels	334 (58.6%)	203 (54.9%)	98 (74.8%)	33 (47.8%)
Foreign newspapers, radio and/or television channels	164 (28.8%)	91 (24.6%)	46 (35.1%)	27 (39.1%)
Family and/or social network in your home country	139 (24.4%)	103 (27.8%)	23 (17.6%)	13 (18.8%)
Social media	101 (17.7%)	74 (20.0%)	11 (8.40%)	16 (23.2%)
Family or social network in country you are currently living	88 (15.4%)	67 (18.1%)	14 (10.7%)	7 (10.1%)
Local authorities' statements	83 (14.6%)	44 (11.9%)	25 (19.1%)	14 (20.3%)
Camp staff	82 (14.4%)	61 (16.5%)	12 (9.16%)	9 (13.0%)
At your workplace	62 (10.9%)	41 (11.1%)	11 (8.40%)	10 (14.5%)
Brochures	49 (8.60%)	31 (8.38%)	14 (10.7%)	4 (5.80%)
Local government websites	43 (7.54%)	27 (7.30%)	13 (9.92%)	3 (4.35%)
Internet and/or social networks	21 (3.68%)	15 (4.05%)	5 (3.82%)	1 (1.45%)
NGO's	19 (3.33%)	16 (4.32%)	2 (1.53%)	1 (1.45%)
School Teacher	4 (0.702%)	4 (1.08%)	0 (0%)	0 (0%)
Others	4 (0.702%)	1 (0.270%)	2 (1.53%)	1 (1.45%)
I have not received information about COVID-19 vaccination	6 (1.05%)	4 (1.08%)	2 (1.53%)	0 (0%)
Know about types of vaccines (brands) available for COVID-19				
Yes	115 (20.2%)	77 (20.8%)	30 (22.9%)	8 (11.6%)
No	324 (56.8%)	191 (51.6%)	92 (70.2%)	41 (59.4%)
I am Not Sure	131 (23.0%)	102 (27.6%)	9 (6.87%)	20 (29.0%)

	Overall	Regular	Irregular	Refugee
	(N=570)	(N=370)	(N=131)	(N=69)
Know about place of getting COVID-19 vaccination				
Yes	323 (56.7%)	201 (54.3%)	94 (71.8%)	28 (40.6%)
No	136 (23.9%)	91 (24.6%)	24 (18.3%)	21 (30.4%)
I am Not Sure	111 (19.5%)	78 (21.1%)	13 (9.92%)	20 (29.0%)
Place of getting COVID-19 vaccine				
Hospital	291 (90.1%)	182 (90.5%)	85 (90.4%)	24 (85.7%)
Health Center/Clinic	93 (28.8%)	67 (33.3%)	19 (20.2%)	7 (25.0%)
Workplace	19 (5.88%)	13 (6.47%)	4 (4.26%)	2 (7.14%)
Community center, meeting room, or local store	15 (4.64%)	9 (4.48%)	4 (4.26%)	2 (7.14%)
Pharmacy	5 (1.55%)	1 (0.498%)	1 (1.06%)	3 (10.7%)
Shopping Center	4 (1.24%)	2 (0.995%)	2 (2.13%)	0 (0%)
School	3 (0.929%)	3 (1.49%)	0 (0%)	0 (0%)
University	2 (0.619%)	1 (0.498%)	1 (1.06%)	0 (0%)
Other	3 (0.929%)	2 (0.995%)	1 (1.06%)	0 (0%)
I don't want to get vaccinated	16 (4.95%)	11 (5.47%)	2 (2.13%)	3 (10.7%)
Have you observed/heard any comment about the COVID-19 vaccination for refugees/migrants?				
Yes	127 (22.3%)	79 (21.4%)	32 (24.4%)	16 (23.2%)
No	352 (61.8%)	217 (58.6%)	92 (70.2%)	43 (62.3%)
I am Not Sure	91 (16.0%)	74 (20.0%)	7 (5.34%)	10 (14.5%)
Comments Observed/heard about the COVID-19 vaccination for refugees/migrants				
Request documentation to administer the dose	44 (34.6%)	22 (27.8%)	15 (46.9%)	7 (43.8%)
Only national people have access	26 (20.5%)	15 (19.0%)	8 (25.0%)	3 (18.8%)
Dangerous for health	19 (3.33%)	16 (4.32%)	0 (0%)	3 (4.35%)
Deport people without documentation	12 (9.45%)	9 (11.4%)	3 (9.38%)	0 (0%)
Other	7 (1.23%)	4 (1.08%)	3 (2.29%)	0 (0%)
Don't know/don't remember	19 (15.0%)	13 (16.5%)	3 (9.38%)	3 (18.8%)
Funder of vaccination process in the country				
Government	391 (68.6%)	240 (64.9%)	113 (86.3%)	38 (55.1%)
NGOs	25 (4.39%)	15 (4.05%)	3 (2.29%)	7 (10.1%)
Private company	6 (1.05%)	4 (1.08%)	1 (0.763%)	1 (1.45%)
Other	1 (0.175%)	0 (0%)	0 (0%)	1 (1.45%)
Don't know	158 (27.7%)	119 (32.2%)	15 (11.5%)	24 (34.8%)
Made any payment or contribution to be vaccinated against COVID-19				
Paid to get an appointment	20 (3.51%)	12 (3.24%)	7 (5.34%)	1 (1.45%)
Bought the syringes	1 (0.175%)	1 (0.270%)	0 (0%)	0 (0%)
Paid to get a vaccination certificate	8 (1.40%)	6 (1.62%)	2 (1.53%)	0 (0%)
Totally free of charge	289 (50.7%)	208 (56.2%)	58 (44.3%)	23 (33.3%)
I have not been vaccinated	256 (44.9%)	147 (39.7%)	64 (48.9%)	45 (65.2%)
Other	1 (0.175%)	1 (0.270%)	0 (0%)	0 (0%)
Received a vaccination card or information on where to find a vaccination card after getting vaccinated				
Yes	286 (91.1%)	208 (93.3%)	60 (89.6%)	18 (75.0%)

	Overall	Regular	Irregular	Refugee
	(N=570)	(N=370)	(N=131)	(N=69)
No	23 (7.32%)	12 (5.38%)	6 (8.96%)	5 (20.8%)
Don't Know / Don't Remember	5 (1.59%)	3 (1.35%)	1 (1.49%)	1 (4.17%)
Have a vaccination card or certificate				
Yes	262 (83.4%)	196 (87.9%)	52 (77.6%)	14 (58.3%)
No	50 (15.9%)	27 (12.1%)	14 (20.9%)	9 (37.5%)
Don't know	2 (0.637%)	0 (0%)	1 (1.49%)	1 (4.17%)
Place of obtaining the vaccination card or certificate				
Vaccination center	209 (79.8%)	154 (78.6%)	48 (92.3%)	7 (50.0%)
Website	43 (16.4%)	33 (16.8%)	4 (7.69%)	6 (42.9%)
From a different health facility	10 (3.82%)	9 (4.59%)	0 (0%)	1 (7.14%)
Faced any problem acquiring the vaccination card or certificate				
No	240 (91.6%)	182 (92.9%)	46 (88.5%)	12 (85.7%)
System showed an error	18 (6.87%)	10 (5.10%)	6 (11.5%)	2 (14.3%)
Data was not correct	3 (1.15%)	3 (1.53%)	0 (0%)	0 (0%)
Other	1 (0.382%)	1 (0.510%)	0 (0%)	0 (0%)
Ever been denied access to vaccination because of no identity document				
Yes	18 (5.73%)	9 (4.04%)	7 (10.4%)	2 (8.33%)
No	276 (87.9%)	196 (87.9%)	60 (89.6%)	20 (83.3%)
Don't Know / Don't Remember	20 (6.37%)	18 (8.07%)	0 (0%)	2 (8.33%)
A special code was generated in case of unavailability of ID card at the time of vaccination				
Yes	8 (44.4%)	4 (44.4%)	2 (28.6%)	2 (100%)
No	5 (27.8%)	4 (44.4%)	1 (14.3%)	0 (0%)
Was not allowed to get vaccinated	3 (16.7%)	0 (0%)	3 (42.9%)	0 (0%)
Not Applicable	2 (11.1%)	1 (11.1%)	1 (14.3%)	0 (0%)
Vaccination plan implemented in residing country was more accessible to people in mobility compared to other neighboring countries				
Yes	100 (17.5%)	66 (17.8%)	26 (19.8%)	8 (11.6%)
No	111 (19.5%)	54 (14.6%)	41 (31.3%)	16 (23.2%)
Don't know how it was in another country	183 (32.1%)	128 (34.6%)	41 (31.3%)	14 (20.3%)
Don't Know / Don't Remember	176 (30.9%)	122 (33.0%)	23 (17.6%)	31 (44.9%)
Witnessed any kind of discrimination during the vaccination process				
Did not witness any act of discrimination	487 (85.4%)	324 (87.6%)	101 (77.1%)	62 (89.9%)
Yes, to myself	54 (9.47%)	30 (8.11%)	20 (15.3%)	4 (5.80%)
Yes, to a migrant person	18 (3.16%)	8 (2.16%)	10 (7.63%)	0 (0%)
Yes, to the general public	16 (2.81%)	11 (2.97%)	2 (1.53%)	3 (4.35%)
Act of discrimination was from:				
Health center staff	52 (59.1%)	29 (59.2%)	20 (62.5%)	3 (42.9%)
Security personnel	29 (33.0%)	16 (32.7%)	11 (34.4%)	2 (28.6%)
Local population	10 (11.4%)	5 (10.2%)	2 (6.25%)	3 (42.9%)
Other	3 (3.41%)	1 (2.04%)	1 (3.13%)	1 (14.3%)
Facilitators of COVID-19 vaccination process				

	Overall	Regular	Irregular	Refugee
	(N=570)	(N=370)	(N=131)	(N=69)
Timely information has been provided	197 (34.6%)	139 (37.6%)	50 (38.2%)	8 (11.6%)
Vaccination centers have been set up in different areas of city	175 (30.7%)	117 (31.6%)	45 (34.4%)	13 (18.8%)
I don't know	244 (42.8%)	157 (42.4%)	38 (29.0%)	49 (71.0%)
None	12 (2.11%)	6 (1.62%)	5 (3.82%)	1 (1.45%)
Perceived any differences in the way of treatment for vaccinations compared to the majority population				
Yes	165 (28.9%)	91 (24.6%)	57 (43.5%)	17 (24.6%)
No	220 (38.6%)	159 (43.0%)	43 (32.8%)	18 (26.1%)
Don't Know / Don't Remember	185 (32.5%)	120 (32.4%)	31 (23.7%)	34 (49.3%)
The national government's campaign was successful in getting migrants to go to vaccination centers				
Yes	241 (42.3%)	157 (42.4%)	67 (51.1%)	17 (24.6%)
No	111 (19.5%)	61 (16.5%)	34 (26.0%)	16 (23.2%)
Don't Know / Don't Remember	218 (38.2%)	152 (41.1%)	30 (22.9%)	36 (52.2%)
Health centers set up at the national level are accessible by the community				
Yes	233 (40.9%)	142 (38.4%)	74 (56.5%)	17 (24.6%)
No	131 (23.0%)	81 (21.9%)	33 (25.2%)	17 (24.6%)
Don't Know / Don't Remember	206 (36.1%)	147 (39.7%)	24 (18.3%)	35 (50.7%)
Time to reach the nearest vaccination center from home				
Between 30 min to 1 hour	279 (48.9%)	195 (52.7%)	42 (32.1%)	42 (60.9%)
Less than 15 min	211 (37.0%)	135 (36.5%)	60 (45.8%)	16 (23.2%)
Between 1 to 2 hours	61 (10.7%)	31 (8.38%)	19 (14.5%)	11 (15.9%)
More than 2 hours	18 (3.16%)	9 (2.43%)	9 (6.87%)	0 (0%)
Outside my province	1 (0.175%)	0 (0%)	1 (0.763%)	0 (0%)
Vaccination centers hygienic for people				
Yes	295 (51.8%)	190 (51.4%)	86 (65.6%)	19 (27.5%)
No	100 (17.5%)	59 (15.9%)	22 (16.8%)	19 (27.5%)
Don't Know / Don't Remember	175 (30.7%)	121 (32.7%)	23 (17.6%)	31 (44.9%)
National government provided adequate information on the percentage of vaccinated people per region				
Yes	259 (45.4%)	171 (46.2%)	71 (54.2%)	17 (24.6%)
No	104 (18.2%)	60 (16.2%)	28 (21.4%)	16 (23.2%)
Don't Know / Don't Remember	207 (36.3%)	139 (37.6%)	32 (24.4%)	36 (52.2%)
Was there a clear, precise and transparent communication from the national and local government on the situation of COVID 19				
Yes	275 (48.2%)	182 (49.2%)	76 (58.0%)	17 (24.6%)
No	86 (15.1%)	48 (13.0%)	23 (17.6%)	15 (21.7%)
Don't Know / Don't Remember	209 (36.7%)	140 (37.8%)	32 (24.4%)	37 (53.6%)

Supplementary Table 17: COVID-19 vaccination among migrants (by Province)

	Overall	Sindh	Balochistan
	(N=570)	(N=324)	(N=246)
Years of Living			
More than 5 years	540 (94.7%)	306 (94.4%)	234 (95.1%)
Less Than 5 Years	30 (5.26%)	18 (5.56%)	12 (4.88%)
Immigration status			
Regular (with valid documents)	370 (64.9%)	206 (63.6%)	164 (66.7%)
Irregular (no valid documents, pending, expired)	131 (23.0%)	97 (29.9%)	34 (13.8%)
Refugee	69 (12.1%)	21 (6.48%)	48 (19.5%)
Gender			
Female	294 (51.6%)	163 (50.3%)	131 (53.3%)
Male	276 (48.4%)	161 (49.7%)	115 (46.7%)
Age			
Less than 18	71 (12.5%)	20 (6.17%)	51 (20.7%)
18 - 49	200 (35.1%)	107 (33.0%)	93 (37.8%)
50 - 59	141 (24.7%)	93 (28.7%)	48 (19.5%)
60 or more	158 (27.7%)	104 (32.1%)	54 (22.0%)
Household members			
Spouse/partner	406 (71.2%)	271 (83.6%)	135 (54.9%)
Daughter/Son	441 (77.4%)	285 (88.0%)	156 (63.4%)
Mother/Father	212 (37.2%)	58 (17.9%)	154 (62.6%)
Sister/Brother	212 (37.2%)	70 (21.6%)	142 (57.7%)
Daughter-in-law/Brother-in-law	131 (23.0%)	35 (10.8%)	96 (39.0%)
Grandchildren	126 (22.1%)	39 (12.0%)	87 (35.4%)
Mother-in-law/Father-in-law	45 (7.89%)	16 (4.94%)	29 (11.8%)
Grandfather/Grandmother	31 (5.44%)	9 (2.78%)	22 (8.94%)
Non-relative	14 (2.46%)	1 (0.309%)	13 (5.28%)
Other Relative	9 (1.58%)	0 (0%)	9 (3.66%)
Minors under responsibility			
Yes, full time	256 (44.9%)	193 (59.6%)	63 (25.6%)
Yes, part-time	61 (10.7%)	21 (6.48%)	40 (16.3%)
No	236 (41.4%)	107 (33.0%)	129 (52.4%)
Education			
Formal education not completed	415 (72.8%)	256 (79.0%)	159 (64.6%)
Primary education	81 (14.2%)	40 (12.3%)	41 (16.7%)
Secondary/Above	60 (10.5%)	21 (6.48%)	39 (15.9%)
I prefer not to say	14 (2.46%)	7 (2.16%)	7 (2.85%)
Participants at risk of COVID-19			
Do not belong to any risk group	351 (61.6%)	196 (60.5%)	155 (63.0%)
60 years or older	124 (21.8%)	86 (26.5%)	38 (15.4%)
Heart disease or high blood pressure	54 (9.47%)	15 (4.63%)	39 (15.9%)
Diabetes	19 (3.33%)	14 (4.32%)	5 (2.03%)
Chronic lung diseases	8 (1.40%)	2 (0.617%)	6 (2.44%)

	Overall	Sindh	Balochistan
	(N=570)	(N=324)	(N=246)
Obesity	8 (1.40%)	5 (1.54%)	3 (1.22%)
Weak immune system (including cancer, HIV)	6 (1.05%)	6 (1.85%)	0 (0%)
Infected with COVID-19			
Yes	26 (4.56%)	8 (2.47%)	18 (7.32%)
No	459 (80.5%)	314 (96.9%)	145 (58.9%)
Don't Know	85 (14.9%)	2 (0.617%)	83 (33.7%)
Had access to the COVID-19 vaccination before getting infected			
Yes	19 (73.1%)	5 (62.5%)	14 (77.8%)
No	3 (11.5%)	0 (0%)	3 (16.7%)
Don't Know	4 (15.4%)	3 (37.5%)	1 (5.56%)
Reason of not getting vaccinated			
Rejected because he/she was a foreigner	3 (42.9%)	2 (66.7%)	1 (25.0%)
Vaccination had not started in the country	3 (42.9%)	1 (33.3%)	2 (50.0%)
Not willing to get the vaccine	1 (14.3%)	0 (0%)	1 (25.0%)
COVID-19 confirmed by a test			
Yes	7 (26.9%)	4 (50.0%)	3 (16.7%)
No	17 (65.4%)	2 (25.0%)	15 (83.3%)
Don't Know	2 (7.69%)	2 (25.0%)	0 (0%)
Hospitalization			
Yes	1 (3.85%)	0 (0%)	1 (5.56%)
No	23 (88.5%)	6 (75.0%)	17 (94.4%)
Don't Know	2 (7.69%)	2 (25.0%)	0 (0%)
Measures taken to avoid the spread of the coronavirus			
Washed hands / used disinfectants more often	383 (70.4%)	215 (68.0%)	168 (73.7%)
Generally, more careful with washing and cleaning	307 (56.4%)	162 (51.3%)	145 (63.6%)
Used protective equipment such as a face mask	209 (38.4%)	116 (36.7%)	93 (40.8%)
Kept at least one meter away from other persons	139 (25.6%)	77 (24.4%)	62 (27.2%)
Kept away from crowds	137 (25.2%)	59 (18.7%)	78 (34.2%)
Avoided public gatherings	117 (21.5%)	102 (32.3%)	15 (6.58%)
Canceled or postponed travels	56 (10.3%)	34 (10.8%)	22 (9.65%)
Used less public transportation	49 (9.01%)	23 (7.28%)	26 (11.4%)
Worked from home (had home office) more often than usual	35 (6.43%)	16 (5.06%)	19 (8.33%)
No, not done any of the above	20 (3.68%)	3 (0.949%)	17 (7.46%)
Offered COVID-19 vaccine			
Yes	376 (66.0%)	283 (87.3%)	93 (37.8%)
No	163 (28.6%)	41 (12.7%)	122 (49.6%)
Don't Know	31 (5.44%)	0 (0%)	31 (12.6%)
Plan to get vaccinated against COVID-19			
Yes	66 (34.0%)	13 (31.7%)	53 (34.6%)
No	115 (59.3%)	28 (68.3%)	87 (56.9%)
Don't Know	13 (6.70%)	0 (0%)	13 (8.50%)

	Overall	Sindh	Balochistan
	(N=570)	(N=324)	(N=246)
Reasons of not taking COVID-19 vaccine			
Risk of adverse reactions to COVID-19 vaccines	64 (50.0%)	7 (25.0%)	57 (57.0%)
CNIC Not Available	11 (8.59%)	11 (39.3%)	0 (0%)
Afraid of/do not like doctors/syringes	11 (8.59%)	1 (3.57%)	10 (10.0%)
Not comfortable with the new COVID-19 vaccine	10 (7.81%)	4 (14.3%)	6 (6.00%)
Permission Issues	9 (7.03%)	0 (0%)	9 (9.00%)
COVID-19 vaccines does not work	8 (6.25%)	2 (7.14%)	6 (6.00%)
Adverse reactions to previous vaccines (others than the COVID-19 vaccine)	7 (5.47%)	3 (10.7%)	4 (4.00%)
Do not feel the need to protect myself	6 (4.69%)	2 (7.14%)	4 (4.00%)
There is too little experience with the use of the vaccine	6 (4.69%)	2 (7.14%)	4 (4.00%)
There is not much COVID-19 infection in the community	4 (3.13%)	2 (7.14%)	2 (2.00%)
Lack of Knowledge	4 (3.13%)	0 (0%)	4 (4.00%)
I don't need the vaccine: rarely/never sick, I don't belong to the priority group	3 (2.34%)	2 (7.14%)	1 (1.00%)
Want the body to develop natural immunity	3 (2.34%)	1 (3.57%)	2 (2.00%)
Do not trust the recommendation from the health authorities/municipality	3 (2.34%)	2 (7.14%)	1 (1.00%)
Others	2 (1.56%)	2 (7.14%)	0 (0%)
I do not need to protect my family/community	2 (1.56%)	0 (0%)	2 (2.00%)
Information from the media	1 (0.781%)	0 (0%)	1 (1.00%)
Political reasons (antigovernment feelings)	1 (0.781%)	0 (0%)	1 (1.00%)
Received the full doses of the COVID-19 vaccine			
Yes	248 (66.0%)	205 (72.4%)	43 (46.2%)
Partially	66 (17.6%)	45 (15.9%)	21 (22.6%)
No	54 (14.4%)	31 (11.0%)	23 (24.7%)
Don't Know	8 (2.13%)	2 (0.707%)	6 (6.45%)
Doses received			
One	103 (32.8%)	58 (23.2%)	45 (70.3%)
Two	199 (63.4%)	181 (72.4%)	18 (28.1%)
Three	12 (3.82%)	11 (4.40%)	1 (1.56%)
Month of receiving the first dose of the COVID-19 vaccine			
JAN – MAR	148 (47.1%)	117 (46.8%)	31 (48.4%)
APR – JUN	22 (7.01%)	18 (7.20%)	4 (6.25%)
JUL – SEP	68 (21.7%)	49 (19.6%)	19 (29.7%)
OCT – DEC	35 (11.1%)	27 (10.8%)	8 (12.5%)
Don't Know / Don't Remember	41 (13.1%)	39 (15.6%)	2 (3.13%)
Year of receiving the first dose of the COVID-19 vaccine			
2020	4 (1.27%)	1 (0.400%)	3 (4.69%)
2021	186 (59.2%)	142 (56.8%)	44 (68.8%)
2022	124 (39.5%)	107 (42.8%)	17 (26.6%)
Vaccine brand of first dose			
Sinovac	65 (20.7%)	59 (23.6%)	6 (9.38%)
Pfizer	63 (20.1%)	63 (25.2%)	0 (0%)

	Overall	Sindh	Balochistan
	(N=570)	(N=324)	(N=246)
Moderna	40 (12.7%)	39 (15.6%)	1 (1.56%)
CanSino	33 (10.5%)	10 (4.00%)	23 (35.9%)
Sinopharm	27 (8.60%)	24 (9.60%)	3 (4.69%)
AstraZeneca	4 (1.27%)	4 (1.60%)	0 (0%)
Pak vaccine	3 (0.955%)	3 (1.20%)	0 (0%)
Johnson & Johnson	1 (0.318%)	1 (0.400%)	0 (0%)
Don't Know / Don't Remember	78 (24.8%)	47 (18.8%)	31 (48.4%)
Month of receiving the second dose of the COVID-19 vaccine			
JAN – MAR	78 (27.9%)	77 (32.2%)	1 (2.44%)
APR – JUN	27 (9.64%)	25 (10.5%)	2 (4.88%)
JUL – SEP	35 (12.5%)	29 (12.1%)	6 (14.6%)
OCT – DEC	43 (15.4%)	35 (14.6%)	8 (19.5%)
Un-Vaccinated	69 (24.6%)	47 (19.7%)	22 (53.7%)
Don't Remember	28 (10.0%)	26 (10.9%)	2 (4.88%)
Year of receiving the second dose of the COVID-19 vaccine			
2021	116 (55.0%)	100 (52.1%)	16 (84.2%)
2022	95 (45.0%)	92 (47.9%)	3 (15.8%)
Vaccine brand of second dose			
Pfizer	60 (28.4%)	60 (31.3%)	0 (0%)
Sinovac	52 (24.6%)	47 (24.5%)	5 (26.3%)
Moderna	34 (16.1%)	33 (17.2%)	1 (5.26%)
Sinopharm	21 (9.95%)	18 (9.38%)	3 (15.8%)
AstraZeneca	3 (1.42%)	3 (1.56%)	0 (0%)
Covaxin	1 (0.474%)	1 (0.521%)	0 (0%)
Sputnik V	1 (0.474%)	1 (0.521%)	0 (0%)
Don't Know / Don't Remember	39 (18.5%)	29 (15.1%)	10 (52.6%)
Month of receiving the booster dose			
JAN – MAR	8 (3.27%)	8 (3.94%)	0 (0%)
APR – JUN	2 (0.816%)	2 (0.985%)	0 (0%)
Un-Vaccinated	233 (95.1%)	192 (94.6%)	41 (97.6%)
Don't Know / Don't Remember	2 (0.816%)	1 (0.493%)	1 (2.38%)
Year of receiving the booster dose			
2022	10 (83.3%)	10 (90.9%)	0 (0%)
2021	2 (16.7%)	1 (9.09%)	1 (100%)
Vaccine brand of booster dose			
Pfizer	3 (25.0%)	3 (27.3%)	0 (0%)
Moderna	3 (25.0%)	3 (27.3%)	0 (0%)
CanSino	2 (16.7%)	2 (18.2%)	0 (0%)
Sinovac	1 (8.33%)	1 (9.09%)	0 (0%)
Sinopharm	1 (8.33%)	1 (9.09%)	0 (0%)
Don't Know / Don't Remember	2 (16.7%)	1 (9.09%)	1 (100%)

	Overall	Sindh	Balochistan
	(N=570)	(N=324)	(N=246)
Experienced any side effect after vaccination			
Yes	5 (41.7%)	5 (45.5%)	0 (0%)
No	6 (50.0%)	6 (54.5%)	0 (0%)
Don't Know	1 (8.33%)	0 (0%)	1 (100%)
Type of side effects experienced			
Fever	5 (100%)	5 (100%)	NA
The vaccine is highly reliable			
Agree	33 (44.6%)	27 (61.4%)	6 (20.0%)
Disagree	24 (32.4%)	10 (22.7%)	14 (46.7%)
Neither agree nor disagree	10 (13.5%)	1 (2.27%)	9 (30.0%)
Strongly agree	5 (6.76%)	5 (11.4%)	0 (0%)
Strongly disagree	2 (2.70%)	1 (2.27%)	1 (3.33%)
The vaccine is a government requirement			
Agree	31 (41.9%)	23 (52.3%)	8 (26.7%)
Disagree	18 (24.3%)	7 (15.9%)	11 (36.7%)
Neither agree nor disagree	17 (23.0%)	8 (18.2%)	9 (30.0%)
Strongly agree	4 (5.41%)	4 (9.09%)	0 (0%)
Strongly disagree	4 (5.41%)	2 (4.55%)	2 (6.67%)
The vaccine protects my family, friends and community			
Agree	28 (37.8%)	23 (52.3%)	5 (16.7%)
Neither agree nor disagree	21 (28.4%)	11 (25.0%)	10 (33.3%)
Disagree	21 (28.4%)	7 (15.9%)	14 (46.7%)
Strongly agree	2 (2.70%)	2 (4.55%)	0 (0%)
Strongly disagree	2 (2.70%)	1 (2.27%)	1 (3.33%)
The vaccine is a requirement to enter establishments			
Disagree	25 (33.8%)	8 (18.2%)	17 (56.7%)
Agree	23 (31.1%)	17 (38.6%)	6 (20.0%)
Neither agree nor disagree	20 (27.0%)	14 (31.8%)	6 (20.0%)
Strongly agree	4 (5.41%)	4 (9.09%)	0 (0%)
Strongly disagree	2 (2.70%)	1 (2.27%)	1 (3.33%)
Getting vaccinated is my duty			
Disagree	29 (39.2%)	12 (27.3%)	17 (56.7%)
Neither agree nor disagree	19 (25.7%)	12 (27.3%)	7 (23.3%)
Agree	17 (23.0%)	13 (29.5%)	4 (13.3%)
Strongly disagree	5 (6.76%)	3 (6.82%)	2 (6.67%)
Strongly agree	4 (5.41%)	4 (9.09%)	0 (0%)
I get vaccinated because its safe			
Agree	29 (39.2%)	26 (59.1%)	3 (10.0%)
Disagree	21 (28.4%)	5 (11.4%)	16 (53.3%)
Neither agree nor disagree	17 (23.0%)	7 (15.9%)	10 (33.3%)
Strongly agree	4 (5.41%)	4 (9.09%)	0 (0%)

	Overall	Sindh	Balochistan
	(N=570)	(N=324)	(N=246)
Strongly disagree	3 (4.05%)	2 (4.55%)	1 (3.33%)
I would not like to get vaccinated, but I get vaccinated because I am forced			
Disagree	29 (39.2%)	12 (27.3%)	17 (56.7%)
Neither agree nor disagree	19 (25.7%)	13 (29.5%)	6 (20.0%)
Agree	16 (21.6%)	13 (29.5%)	3 (10.0%)
Strongly disagree	7 (9.46%)	3 (6.82%)	4 (13.3%)
Strongly agree	3 (4.05%)	3 (6.82%)	0 (0%)
Concerned about COVID-19 vaccine serious side effects			
Very concerned	96 (16.8%)	27 (8.33%)	69 (28.0%)
Moderately concerned	69 (12.1%)	27 (8.33%)	42 (17.1%)
A little concerned	270 (47.4%)	164 (50.6%)	106 (43.1%)
Not at all concerned	135 (23.7%)	106 (32.7%)	29 (11.8%)
Willingness to get a COVID-19 vaccine			
Very much	53 (9.30%)	39 (12.0%)	14 (5.69%)
Moderately	131 (23.0%)	68 (21.0%)	63 (25.6%)
A little	318 (55.8%)	185 (57.1%)	133 (54.1%)
Not at all	68 (11.9%)	32 (9.88%)	36 (14.6%)
Preferred Location of getting COVID-19 vaccine			
Hospital	424 (74.4%)	280 (86.4%)	144 (58.5%)
Health Center/Clinic	132 (23.2%)	72 (22.2%)	60 (24.4%)
Workplace	28 (4.91%)	3 (0.926%)	25 (10.2%)
Pharmacy	7 (1.23%)	1 (0.309%)	6 (2.44%)
Community center, meeting room, local store	16 (2.81%)	2 (0.617%)	14 (5.69%)
University	1 (0.175%)	0 (0%)	1 (0.407%)
Shopping Center	4 (0.702%)	1 (0.309%)	3 (1.22%)
School near the place of residence	71 (12.5%)	25 (7.72%)	46 (18.7%)
Residential Area	30 (5.26%)	9 (2.78%)	21 (8.54%)
I don't want to get vaccinated	36 (6.32%)	8 (2.47%)	28 (11.4%)
Other	1 (0.175%)	0 (0%)	1 (0.407%)
Final say on getting COVID-19 vaccine (from family)			
Participant, itself	359 (63.0%)	233 (71.9%)	126 (51.2%)
Spouse/partner	79 (13.9%)	42 (13.0%)	37 (15.0%)
Father	66 (11.6%)	19 (5.86%)	47 (19.1%)
Mother	31 (5.44%)	4 (1.23%)	27 (11.0%)
His/her child	30 (5.26%)	23 (7.10%)	7 (2.85%)
Someone else	5 (0.877%)	3 (0.926%)	2 (0.813%)
Family and close friends willing to get a COVID-19 vaccine			
Yes	303 (53.2%)	228 (70.4%)	75 (30.5%)
No	104 (18.2%)	52 (16.0%)	52 (21.1%)
Don't Know	163 (28.6%)	44 (13.6%)	119 (48.4%)
Trust on healthcare providers giving COVID-19 vaccine			

	Overall	Sindh	Balochistan
	(N=570)	(N=324)	(N=246)
Very much	68 (11.9%)	55 (17.0%)	13 (5.28%)
Moderately	107 (18.8%)	30 (9.26%)	77 (31.3%)
A little	294 (51.6%)	164 (50.6%)	130 (52.8%)
Not at all	101 (17.7%)	75 (23.1%)	26 (10.6%)
Main difficulties for the population to NOT get the COVID-19 vaccine			
Nothing. It is not difficult	259 (45.4%)	189 (58.3%)	70 (28.5%)
The vaccination site is too far away	70 (12.3%)	45 (13.9%)	25 (10.2%)
The COVID-19 vaccine is not available for a given group	50 (8.77%)	38 (11.7%)	12 (4.88%)
They can't go on their own (they have physical limitation)	60 (10.5%)	49 (15.1%)	11 (4.47%)
It is difficult to register for vaccination	50 (8.77%)	35 (10.8%)	15 (6.10%)
They do not have the internet or a smartphone to register for vaccination	35 (6.14%)	7 (2.16%)	28 (11.4%)
The waiting time is too long	32 (5.61%)	22 (6.79%)	10 (4.07%)
Don't have valid documents/CNIC	31 (5.44%)	31 (9.57%)	0 (0%)
People are turned away without vaccination	29 (5.09%)	19 (5.86%)	10 (4.07%)
Opening hours are inconvenient	26 (4.56%)	18 (5.56%)	8 (3.25%)
Vaccination costs too much	24 (4.21%)	23 (7.10%)	1 (0.407%)
No permission from male members of family	18 (3.16%)	0 (0%)	18 (7.32%)
Misconception spread by peoples	16 (2.81%)	1 (0.309%)	15 (6.10%)
No awareness about vaccines	9 (1.58%)	0 (0%)	9 (3.66%)
Others	62 (10.9%)	1 (0.309%)	61 (24.8%)
Main source of information about the COVID-19 vaccination process			
Local newspapers, radio and/or television channels	334 (58.6%)	231 (71.3%)	103 (41.9%)
Foreign newspapers, radio and/or television channels	164 (28.8%)	111 (34.3%)	53 (21.5%)
Family and/or social network in your home country	139 (24.4%)	51 (15.7%)	88 (35.8%)
Social media	101 (17.7%)	42 (13.0%)	59 (24.0%)
Family and/or social network in the country you are currently living	88 (15.4%)	66 (20.4%)	22 (8.94%)
Local authorities' statements	83 (14.6%)	45 (13.9%)	38 (15.4%)
Camp staff	82 (14.4%)	34 (10.5%)	48 (19.5%)
At your workplace	62 (10.9%)	16 (4.94%)	46 (18.7%)
Brochures	49 (8.60%)	35 (10.8%)	14 (5.69%)
Local government websites	43 (7.54%)	38 (11.7%)	5 (2.03%)
Internet and/or social networks	21 (3.68%)	14 (4.32%)	7 (2.85%)
NGO's	19 (3.33%)	6 (1.85%)	13 (5.28%)
I have not received information about COVID-19 vaccination	6 (1.05%)	1 (0.309%)	5 (2.03%)
School Teacher	4 (0.702%)	0 (0%)	4 (1.63%)
Others	4 (0.702%)	1 (0.309%)	3 (1.22%)
Know about types of vaccines (brands) available for COVID-19			
Yes	115 (20.2%)	89 (27.5%)	26 (10.6%)
No	324 (56.8%)	230 (71.0%)	94 (38.2%)
I am Not Sure	131 (23.0%)	5 (1.54%)	126 (51.2%)
Know about place of getting COVID-19 vaccination			

	Overall	Sindh	Balochistan
	(N=570)	(N=324)	(N=246)
Yes	323 (56.7%)	239 (73.8%)	84 (34.1%)
No	136 (23.9%)	67 (20.7%)	69 (28.0%)
I am Not Sure	111 (19.5%)	18 (5.56%)	93 (37.8%)
Place of getting COVID-19 vaccine			
Hospital	291 (90.1%)	218 (91.2%)	73 (86.9%)
Health Center/Clinic	93 (28.8%)	58 (24.3%)	35 (41.7%)
Workplace	19 (5.88%)	4 (1.67%)	15 (17.9%)
Community center, meeting room, or local store	15 (4.64%)	5 (2.09%)	10 (11.9%)
Pharmacy	5 (1.55%)	1 (0.418%)	4 (4.76%)
Shopping Center	4 (1.24%)	1 (0.418%)	3 (3.57%)
School	3 (0.929%)	1 (0.418%)	2 (2.38%)
University	2 (0.619%)	1 (0.418%)	1 (1.19%)
Other	3 (0.929%)	3 (1.26%)	0 (0%)
I don't want to get vaccinated	16 (4.95%)	7 (2.93%)	9 (10.7%)
Have you observed/heard any comment about the COVID-19 vaccination for refugees/migrants?			
No	352 (61.8%)	240 (74.1%)	112 (45.5%)
Yes	127 (22.3%)	66 (20.4%)	61 (24.8%)
I am Not Sure	91 (16.0%)	18 (5.56%)	73 (29.7%)
Comments Observed/heard about the COVID-19 vaccination for refugees/migrants			
Request documentation to administer the dose	44 (34.6%)	28 (42.4%)	16 (26.2%)
Only national people have access	26 (20.5%)	18 (27.3%)	8 (13.1%)
Dangerous for health	19 (3.33%)	0 (0%)	19 (7.72%)
Deport people without documentation	12 (9.45%)	7 (10.6%)	5 (8.20%)
Other	7 (1.23%)	6 (1.85%)	1 (0.407%)
Don't Know / Don't Remember	19 (15.0%)	7 (10.6%)	12 (19.7%)
Funder of vaccination process in the country			
Government	391 (68.6%)	303 (93.5%)	88 (35.8%)
NGOs	25 (4.39%)	3 (0.926%)	22 (8.94%)
Private company	6 (1.05%)	4 (1.23%)	2 (0.813%)
Other	1 (0.175%)	0 (0%)	1 (0.407%)
Don't know	158 (27.7%)	16 (4.94%)	142 (57.7%)
Made any payment or contribution to be vaccinated against COVID-19			
Paid to get an appointment	20 (3.51%)	17 (5.25%)	3 (1.22%)
Bought the syringes	1 (0.175%)	1 (0.309%)	0 (0%)
Paid to get a vaccination certificate	8 (1.40%)	5 (1.54%)	3 (1.22%)
Totally free of charge	289 (50.7%)	232 (71.6%)	57 (23.2%)
I have not been vaccinated	256 (44.9%)	74 (22.8%)	182 (74.0%)
Other	1 (0.175%)	0 (0%)	1 (0.407%)
Received a vaccination card or information on where to find a vaccination card after getting vaccinated			
Yes	286 (91.1%)	227 (90.8%)	59 (92.2%)
No	23 (7.32%)	20 (8.00%)	3 (4.69%)

	Overall	Sindh	Balochistan
	(N=570)	(N=324)	(N=246)
Don't Know / Don't Remember	5 (1.59%)	3 (1.20%)	2 (3.13%)
Have a vaccination card or certificate			
Yes	262 (83.4%)	201 (80.4%)	61 (95.3%)
No	50 (15.9%)	48 (19.2%)	2 (3.13%)
Don't know	2 (0.637%)	1 (0.400%)	1 (1.56%)
Place of obtaining the vaccination card or certificate			
Vaccination center	209 (79.8%)	175 (87.1%)	34 (55.7%)
Website	43 (16.4%)	23 (11.4%)	20 (32.8%)
From a different health facility	10 (3.82%)	3 (1.49%)	7 (11.5%)
Faced any problem acquiring the vaccination card or certificate			
No	240 (91.6%)	185 (92.0%)	55 (90.2%)
System showed an error	18 (6.87%)	13 (6.47%)	5 (8.20%)
Data was not correct	3 (1.15%)	3 (1.49%)	0 (0%)
Other	1 (0.382%)	0 (0%)	1 (1.64%)
Ever been denied access to vaccination because of no identity document			
Yes	18 (5.73%)	15 (6.00%)	3 (4.69%)
No	276 (87.9%)	227 (90.8%)	49 (76.6%)
Don't Know / Don't Remember	20 (6.37%)	8 (3.20%)	12 (18.8%)
A special code was generated in case of unavailability of ID card at the time of vaccination			
Yes	8 (44.4%)	7 (46.7%)	1 (33.3%)
No	5 (27.8%)	5 (33.3%)	0 (0%)
Was not allowed to get vaccinated	3 (16.7%)	2 (13.3%)	1 (33.3%)
Not Applicable	2 (11.1%)	1 (6.67%)	1 (33.3%)
Vaccination plan implemented in residing country was more accessible to people in mobility compared to other neighboring countries			
Yes	100 (17.5%)	82 (25.3%)	18 (7.32%)
No	111 (19.5%)	77 (23.8%)	34 (13.8%)
Don't know how it was in another country	183 (32.1%)	122 (37.7%)	61 (24.8%)
Don't Know / Don't Remember	176 (30.9%)	43 (13.3%)	133 (54.1%)
Witnessed any kind of discrimination during the vaccination process			
To participant, itself	54 (9.47%)	50 (15.4%)	4 (1.63%)
To a migrant person	18 (3.16%)	15 (4.63%)	3 (1.22%)
To the public	16 (2.81%)	9 (2.78%)	7 (2.85%)
Did not witness any act of discrimination	487 (85.4%)	253 (78.1%)	234 (95.1%)
Act of discrimination was from:			
Security personnel	29 (33.0%)	28 (37.8%)	1 (7.14%)
Health center staff	52 (59.1%)	45 (60.8%)	7 (50.0%)
Local population	10 (11.4%)	4 (5.41%)	6 (42.9%)
Other	3 (3.41%)	2 (2.70%)	1 (7.14%)
Facilitators of COVID-19 vaccination process			
Timely information has been provided	197 (34.6%)	169 (52.2%)	28 (11.4%)
Vaccination centers have been set up in different areas of the city	175 (30.7%)	166 (51.2%)	9 (3.66%)

	Overall	Sindh	Balochistan
	(N=570)	(N=324)	(N=246)
I do not know	244 (42.8%)	37 (11.4%)	207 (84.1%)
None	12 (2.11%)	10 (3.09%)	2 (0.813%)
Perceived any differences in the way of treatment for vaccinations compared to the majority population			
Yes	165 (28.9%)	146 (45.1%)	19 (7.72%)
No	220 (38.6%)	138 (42.6%)	82 (33.3%)
Don't Know / Don't Remember	185 (32.5%)	40 (12.3%)	145 (58.9%)
The national government's campaign was successful in getting migrants to go to vaccination centers			
Yes	241 (42.3%)	204 (63.0%)	37 (15.0%)
No	111 (19.5%)	61 (18.8%)	50 (20.3%)
Don't Know / Don't Remember	218 (38.2%)	59 (18.2%)	159 (64.6%)
Health centers set up at the national level are accessible by the community			
Yes	233 (40.9%)	190 (58.6%)	43 (17.5%)
No	131 (23.0%)	67 (20.7%)	64 (26.0%)
Don't Know / Don't Remember	206 (36.1%)	67 (20.7%)	139 (56.5%)
Time to reach the nearest vaccination center from home			
Between 30 min to 1 hour	279 (48.9%)	120 (37.0%)	159 (64.6%)
Less than 15 min	211 (37.0%)	169 (52.2%)	42 (17.1%)
Between 1 to 2 hours	61 (10.7%)	32 (9.88%)	29 (11.8%)
More than 2 hours	18 (3.16%)	3 (0.926%)	15 (6.10%)
Outside my province	1 (0.175%)	0 (0%)	1 (0.407%)
Vaccination centers hygienic for people			
Yes	295 (51.8%)	251 (77.5%)	44 (17.9%)
No	100 (17.5%)	41 (12.7%)	59 (24.0%)
Don't Know / Don't Remember	175 (30.7%)	32 (9.88%)	143 (58.1%)
National government provided adequate information on the percentage of vaccinated people per region			
Yes	259 (45.4%)	236 (72.8%)	23 (9.35%)
No	104 (18.2%)	46 (14.2%)	58 (23.6%)
Don't Know / Don't Remember	207 (36.3%)	42 (13.0%)	165 (67.1%)
Was there a clear, precise and transparent communication from the national and local government on the situation of COVID 19			
Yes	275 (48.2%)	250 (77.2%)	25 (10.2%)
No	86 (15.1%)	34 (10.5%)	52 (21.1%)
Don't Know / Don't Remember	209 (36.7%)	40 (12.3%)	169 (68.7%)