**Facilitators and barriers to COVID-19 vaccination among healthcare workers and the general population in Guinea.**

Almamy Amara TOURE1,2, Fodé Amara TRAORE3,4, Gnoume CAMARA3, Aboubacar Sidiki MAGASSOUBA5, Ibrahima BARRY1, Mohamed Lamine KOUROUMA4, Younoussa SYLLA1, Naby Yaya CONTE1,5, Diao CISSE5, Nafissatou DIOUBATÉ1, Sidikiba SIDIBE6,7, Abdoul Habib BEAVOGUI1, Alexandre DELAMOU5,6.

**Authors' affiliations**
1 Maferinyah National Centre for Training and Research in Rural Health (CNFRSR), Forécariah, Guinea. 2 Kofi Annan University of Guinea.Conakry,Guinea. 3 Centre Hospitalo-Universitaire de Conakry,Service de maladies infectieuses. 4 Agence Nationale de Sécurité Sanitaire,Conakry,Guinée. 5 Centre MURAZ, Burkina Faso.6 Department of Public Health, Faculty of Sciences and Health Techniques, Gamal Abdel Nasser University, Conakry, Guinea. 7 African Centre of Excellence in the Prevention and Control of communicable Diseases (CEA-PCMT).

**Additional tables**

**Table S1. COVID-19 and vaccination items**

| **Items**  | **Questions used** | **Scale/response** |
| --- | --- | --- |
| **knowledge about vaccination**  | **-Healthcare workers:**vaccine definitionvaccine typespost-injection adverse effectsindividual and herd immunity**-General population:** general principle of vaccination | Yes/noYes/noYes/noYes/noYes/no |
| **Information sources** | Have you recently sought news about COVID-19? | **Yes/no** |
| **Perception/fear of COVID-19:*** **Perceived Susceptibility of the disease**
 | I am likely to get COVID-19I am at risk of COVID-19I may get COVID-19 | **1** strongly disagree2 disagree**3** neutral**4** agree5 strongly agree |
| **Perceived seriousness of the disease** | **I think that COVID-19 is a severe health problem**I believe that COVID-19 has negative consequencesI think that COVID-19 is highly harmful | 1 strongly disagree2 disagree3 neutral4 agree5 strongly agree |
| **Fear of COVID** | I am terrified of COVID-19Thinking about COVID-19 makes me feel uncomfortableMy palms get sweaty when I think about COVID-19Watching the news about COVID-19 on social networks makes me nervous or anxiousI cannot sleep because I am fearful of catching COVID-19My heart rate increases, or I have palpitations when I think about COVID-19 | 1 strongly disagree2 disagree3 neutral4 agree5 strongly agree |
| **Attitudes and beliefs:****-Positive attitude****-Negative attitude****-Negative attitude**  | Taking COVID-19 vaccination will help prevent coronavirusTaking COVID-19 vaccine will help strengthen the body’s immunity in fighting virusesA vaccine is reserved for a group of peopleA vaccine is too expensive for meA procedure to get the vaccine is laboriousI am afraid of the side effects of the vaccineI heard that the vaccine induces the diseaseVaccine is made to prevent reproductionI don’t trust vaccines | 1 strongly disagree2 disagree3 neutral4 agree5 strongly agree |
| **Subjective Norms** | **My parents and friends advised me to take the COVID-19 vaccine****Many people in my neighbourhood think that vaccination is an excellent way to prevent disease****I have seen people like me getting vaccinate** | 1 strongly disagree2 disagree3 neutral4 agree5 strongly agree |
| **Ability** | I am able to get the vaccine to avoid getting COVID-19It is easy for me to get a vaccine to protect me from COVID-19 | 1 strongly disagree2 disagree3 neutral4 agree5 strongly agree |
| **Intention to receive COVID-19 vaccine** | I am seeking the COVID-19 vaccineI will get vaccinated if my family or friends ask me to do so | 1 strongly disagree2 disagree3 neutral4 agree5 strongly agre |

**Table S2**. Socio-demographic characteristics of the HCWs and GP in Guinea.

| **Characteristic** |  HCWs | GP |
| --- | --- | --- |
|  | **N = 3,547** | **N = 3,663** |
| Age  |  |  |
|  Young  | 3,115 (88%) | 2,902 (79%) |
|  Adult  | 432 (12%) | 761 (21%) |
| Gender  |  |  |
| Men  | 1,339 (38%) | 2,542 (69%) |
| Women  | 2,208 (62%) | 1,121 (31%) |
| Matrimonial status |  |  |
| Married  | 1,935 (55%) | 1,711 (47%) |
| Single  | 1,612 (45%) | 1,952 (53%) |
| Education  |  |  |
| Second  | 102 (2.9%) | 1,724 (47%) |
| University  | 1,114 (31%) | 1,716 (47%) |
| High school | 2,331 (66%) | 223 (6.1%) |
| Occupation |  |  |
| Nurse assistant | 1,876 (53%) |  |
|  Laboratory technician | 165 (4.7%) |  |
| Physician  | 794 (22%) |  |
| Medical support | 95 (2.7%) |  |
| Midwife  | 470 (13%) |  |
| Internship  | 147 (4.1%) |  |
| Private-employee  |  | 260 (7.1%) |
| Student  |  | 896 (24%) |
| Civil-servant |  | 833 (23%) |
| Freelance |  | 1,434 (39%) |
| Unemployed  |  | 240 (6.6%) |
| Household size |  |  |
| [1,5] | 1,562 (44%) | 1,753 (48%) |
| (5,10] | 1,428 (40%) | 1,362 (37%) |
| (10,30] | 557 (16%) | 548 (15%) |
| ≥ 18 years old | 3 (2, 5) | 3 (2, 5) |
| Length-stay |  |  |
| <6months | 362 (10%) | 404 (11%) |
| >=6months | 3,185 (90%) | 3,259 (89%) |
| Pregnancy  |  |  |
| Yes  | 152 (4.3%) | 77 (2.1%) |
| No  | 2,054 (58%) | 1,040 (28%) |
| Not applicable | 1,341 (38%) | 2,546 (70%) |
| Household Income  |  |  |
|  High income | 266 (7.5%) | 442 (12%) |
|  Low income | 512 (14%) | 475 (13%) |
|  Middle income | 2,769 (78%) | 2,746 (75%) |

Legends:

* HCWs. Healthcare workers; GP. General population.
* Young: whose age is <40 and Adult: whose age is≥ 40.
* High income when the mean income is ≥ 2000000GNF and the number of people in the household is ≤10.
* Low-income households, when the mean income is < 2000000GNF and the number of people in the household is >10.
* All other cases were considered middle income.

**Table S3. Medical conditions reported by the HCWs and GP in Guinea.**

|  |  |  |
| --- | --- | --- |
|  |  |  |
| **Characteristic** |  HCWs | GP |
|  | **N = 3,547** | **N = 3,663** |
| Diabetes  |  |  |
|  Yes  | 83 (2.3%) | 114 (3.1%) |
|  No  | 3464 (97.7%) |  3549 (96.9%) |
| Hypertension |  |  |
|  Yes  | 154 (4.3%) | 249 (6.8%) |
|  No  |  3393 (95.7%) |  3414 (93.2%) |
| Obesity  |  |  |
|  Yes  | 613 (17%) | 897 (24%) |
|  No  |  2934 (83%)  |  2766 (86%) |
| Asthma  |  |  |
|  Yes  | 123 (3.5%) | 103 (2.8%) |
|  No  |  3424 (96.5%) |  3560 (97.2%) |
| Other allergic conditions |  |  |
|  Yes  | 664 (19%) | 649 (18%) |
|  No  |  2883 (81%)  |  3014 (82%) |
| Other chronic diseases |  |  |
|  Yes  | 336 (9.5%) | 342 (9.3%) |
|  No  | 3211 (80.5%) |  3021(80.7%) |

**HCWs. Healthcare workers ; GP. General population**

**Additional file 4. Factors related to COVID-19 and vaccine among HCWs and GP.**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Characteristic** |  |  HCWs | GP |
|  |  | **N = 3,547** | **N = 3,663** |
| Vaccine knowledge |  |  |  |
|  Yes  | 1,609 (45%) |  | 1,769 (48%) |
|  No  |  1938 (55%) |  |  1894 (52%) |
| Seeking COVID vaccine news in the last three days |  |  |  |
|  Yes  | 2,254 (64%) |  | 2,025 (55%) |
|  No  |  1293 (36%) |  |  1638 (45%) |
| Perception  |  |  |  |
| Positive  | 1,746 (49%) |  | 1,774 (48%) |
| Negative  | 1,801 (51%) |  | 1,889 (52%) |
| Negative attitude |  |  |  |
| Less negative | 1,891 (53%) |  | 1,961 (54%) |
| Much negative | 1,656 (47%) |  | 1,702 (46%) |
| Positive attitude |  |  |  |
| Less positive | 2,603 (73%) |  | 597 (16%) |
| Much positive | 944 (27%) |  | 3,066 (84%) |
| Norms  |  |  |  |
| Less favourable | 1,692 (48%) |  | 1,927 (53%) |
| Favourable  | 1,855 (52%) |  | 1,736 (47%) |
| Ability to get the vaccine |  |  |  |
| Not able | 3,081 (87%) |  | 1,340 (37%) |
| Able  | 466 (13%) |  | 2,323 (63%) |
| Intend to get vaccinated |  |  |  |
| Less intend  | 2,401 (68%) |  | 2,039 (56%) |
| More intend | 1,146 (32%) |  | 1,624 (44%) |
|  |  |

Legend. HCWs : vaccine knowledge scale (min=5,mean=7., max=10, scale≥mean=yes); perception (min=13, mean=43.6,max=65, scale≥mean=positive); negative attitude (min=7,mean=18.3, max=35, scale≥mean=much negative); positive attitude (min=2,mean=8.1,max=10, scale≥mean=much positive), norms (min=3,mean=10.6, max=15, scale≥mean=favourable), ability to get the vaccine (min=2,mean=7.6,max=10, scale≥mean=able), intend to get vaccinated (min=2,mean=6,max=10, scale≥mean=more intend). GP: ); perception (min=13, mean=42.7,max=65, scale≥mean=positive), negative attitude (min=7,mean=19.1, max=35, scale≥mean=much negative); positive attitude (min=2,mean=7.8,max=10, scale≥mean=much positive), norms (min=3,mean=10.2, max=15, scale≥mean=favourable); ability to get the vaccine (min=2,mean=6.8,max=10, scale≥mean=able), intend to get vaccinated (min=2,mean=6,4,max=10, scale≥mean=more intend).