# Caregivers' perceptions of vaccination against COVID-19 infection in the city of Kinshasa: The case of Kintambo General Referral Hospital, Kinshasa, Democratic Republic of the Congo

Kanyere, S. C.[1,2], Kadiata, B. A.[1], Masengu, B. R.[2,3], Mufaume, S. S.[2], & Sebo, M. C.[2]

[1]Nursing Sciences Section, Higher Institute of Medical Techniques of Kinshasa, Kinshasa, Democratic Republic of the Congo
[2]Kintambo General Referral Hospital, City of Kinshasa, Democratic Republic of the Congo
[3]Doctoral School, Higher Institute of Medical Techniques of Kinshasa, Kinshasa, Democratic Republic of the Congo

**ABSTRACT**

**Introduction**

Following the declaration of the COVID-19 pandemic, the Democratic Republic of Congo (DRC), under the coordination of the Presidency of the Republic through the Multisectoral Response Committee against COVID-19, implemented measures recommended by the World Health Organization, including screening, adherence to barrier measures, and vaccination.

**Purpose**

This study aimed to explore healthcare workers' perceptions of and attitudes towards COVID-19 vaccination at Kintambo General Referral Hospital in Kinshasa, and to identify factors influencing vaccine acceptability, hesitancy, and refusal.

**Methods**

An exploratory qualitative study was conducted among healthcare workers at Kintambo General Referral Hospital. Data were collected using surveys and semi-structured interviews and analysed through thematic and categorical analysis.

**Results**

Initial perceptions of the COVID-19 vaccine were largely negative, with the vaccine perceived as a poison, a tool for population control, a masquerade, or a population sterilisation strategy. Over time, these perceptions became more positive, with vaccination increasingly viewed as a protective measure with moderately accepted effectiveness. Vaccine acceptability depended on production by a reputable laboratory, absence of significant side effects, and voluntary administration. Motivations for vaccination included perceived occupational exposure to COVID-19 and professional responsibility. Reasons for refusal included misinformation disseminated on social media, controversies surrounding early vaccines, limited knowledge about COVID-19, doubts about vaccine safety and effectiveness, fear of side effects, and the politicisation of vaccination.

**Conclusion**

The findings indicate that concerns about COVID-19 vaccination persist among healthcare workers. Strengthening targeted awareness and communication strategies that clearly explain scientific evidence and clinical trial results is essential to improve confidence in vaccines. Addressing misinformation and promoting evidence-based decision-making are critical to enhancing vaccine acceptance among healthcare workers and the general population.

**Kanyere et al.,** *Orapuh Journal* **2026, 7(1), e1402**

Caregivers' perceptions of vaccination against COVID-19 infection in the city of Kinshasa: The case of Kintambo General Referral Hospital, Kinshasa, Democratic Republic of the Congo

## INTRODUCTION

Vaccination against coronavirus disease 2019 (COVID-19), a pandemic that has imposed a heavy global disease burden and for which no specific antiviral treatment currently exists, is a necessity (Huang et al., 2020).

As vaccination is one of the most effective and cost-effective public health interventions for preventing infectious diseases, COVID-19 vaccines are considered critically important for the prevention and control of the disease (Gao et al., 2021).

Countries worldwide are accelerating research and development efforts for COVID-19 vaccines. It has been reported that more than 160 vaccine candidates have been developed, with approximately 20 undergoing clinical evaluation (Ge et al., 2020; World Health Organization [WHO], 2020b).

Despite significant progress, major challenges remain regarding the future of COVID-19 immunisation. One of the most critical challenges is uncertainty surrounding public acceptance of COVID-19 vaccination. Vaccination has become a controversial issue not only among beneficiary populations but also among healthcare workers, who are expected to possess sufficient knowledge to encourage vaccine uptake. Even populations in countries where vaccines are manufactured have expressed doubts about vaccination.

Vaccine acceptance reflects overall perceptions of disease risk, attitudes towards vaccines, and demand within the general population. These factors are essential for the success of vaccination programmes aimed at achieving high coverage rates, particularly for emerging infectious diseases.

Furthermore, vaccine hesitancy has been strongly linked to a lack of trust in government institutions. A study conducted by a researcher at the Barcelona Institute for Global Health found that approximately 72% of the 13,400 respondents across 19 countries indicated willingness to be vaccinated if an available COVID-19 vaccine demonstrated efficacy and safety, while 14% reported refusal and another 14% expressed hesitancy (Lazarus et al., 2020). Acceptance rates varied considerably, with three countries reporting rates below 60%—France (58.8%), Poland (56.3%), and Russia (54.8%)—and three countries reporting rates above 80%, namely China, Brazil, and South Africa.

By comparison, another study published in *Royal Society Open Science* reported that up to one third of the population in some countries is likely to believe false information and conspiracy theories related to COVID-19. For instance, 33% of respondents in Mexico and 3.7% in Spain believed that the coronavirus was deliberately manufactured in a laboratory in Wuhan, China. Belief in this theory ranged between 22% and 23% in the United Kingdom and the United States (Lazarus et al., 2020).

In China, among individuals willing to accept vaccination, male respondents were more likely to seek COVID-19 vaccination promptly. In addition, those who had received the influenza vaccine during the previous season perceived a high or very high risk of infection and believed that COVID-19 vaccination was an effective means of preventing and controlling the disease (Zhang et al., 2020). Vaccine acceptance therefore remains a global challenge that must be urgently addressed.

A cross-sectional questionnaire survey conducted among healthcare providers involved in vaccinating the general population in three French-speaking regions (Belgium, France, and Quebec) assessed their willingness to accept future COVID-19 vaccines for themselves and to recommend them to their patients. The study revealed negative attitudes towards COVID-19 vaccines in proportions exceeding 30–40% (Zhang et al., 2020).

The main factors independently associated with high hesitancy or refusal included perceptions that the safety of rapidly developed vaccines could not be guaranteed, beliefs that acquiring "natural" immunity is preferable to vaccination, lack of prior influenza vaccination, and mistrust in health authorities and scientific institutions (Goyal et al., 2020).

As the COVID-19 pandemic progressed and the first vaccines were rolled out, several countries planned to complete initial rounds of universal immunisation during the first quarter of the year. However, vaccine uptake has emerged as a major concern, driven by widespread misinformation and persistent doubts regarding vaccine safety and effectiveness.

**Kanyere et al.,** _Orapuh Journal_ **2026, 7(1), e1402**

_Caregivers' perceptions of vaccination against COVID-19 infection in the city of Kinshasa: The case of Kintambo General Referral Hospital, Kinshasa, Democratic Republic of the Congo_

In the Democratic Republic of Congo (DRC), a survey reported by Zellweger (2021) indicated that COVID-19 cases continued to rise following the first confirmed case on 10 March. At the time, 8,163 infections had been recorded, including 192 deaths and 3,983 recoveries (The Economic News Bulletin of the DRC, 2020). Despite these alarming figures, public reluctance towards COVID-19 vaccination remains high. A survey conducted by Target in June, as part of the Congolese public opinion monitoring barometer established in May, revealed widespread vaccine resistance among the population.

At Kintambo General Referral Hospital, the announcement of plans to import the new COVID-19 vaccine generated significant debate and divergent opinions among different professional categories. This situation highlighted the need to explore healthcare workers' perceptions regarding the acceptability of COVID-19 vaccination. From this perspective, the present study was conducted to understand the perceptions of healthcare workers in the city province of Kinshasa regarding COVID-19 vaccination.

## METHODS

### Study Setting
This study was conducted at Kintambo General Referral Hospital, located in the city of Kinshasa, Democratic Republic of Congo.

### Target Population and Sample
The target population comprised all healthcare workers employed at Kintambo General Referral Hospital. Eligibility criteria included being a practising healthcare worker, being employed at the hospital, being present on the day of the survey, and voluntarily consenting to participate.

A non-probabilistic accidental sampling technique was used, targeting healthcare workers who were available and willing to participate at the time of data collection.

### Sample Size
In qualitative research, sample size is rarely predetermined and is instead guided by information needs. According to Mo et al. (2020), sample size is determined by data saturation or redundancy, which occurs when responses become repetitive and no new information emerges. In this study, data redundancy was observed after the 13th

interview. To enhance the reliability of the findings, the sample size was increased to 15 participants.

### Data Collection Method
A qualitative phenomenological approach was adopted to explore the meanings of lived experiences through descriptive analysis (Omanyondo, 2018). This approach enabled a deeper understanding of healthcare workers' perceptions of COVID-19 vaccination.

Data were collected using semi-structured interviews. An interview guide and an audio recorder were employed. The interview guide consisted of three sections: an explanation of the purpose of the study, respondents' sociodemographic characteristics, and questions exploring perceptions of COVID-19 vaccination.

### Data Processing and Analysis
Recorded interviews were transcribed verbatim into a computerised document in the participants' language of expression (Lingala and/or French). Each recording was listened to multiple times, and summary sheets were prepared for each interview.

In qualitative research, analysis is an integrated and iterative process that occurs throughout data collection, enabling the researcher to situate emerging findings within the broader research context (Fortin & Gagnon, 2010).

Transcripts were reviewed by selected participants to ensure credibility and validity of the findings (Baribeau, 2019). Descriptive phenomenological analysis based on Giorgi's method, as presented by Restivo (2018), was used. This approach involved identifying the overall meaning of the text, determining meaning units, analysing central themes, and delimiting the essential structure of the phenomenon.

### Ethical Considerations
To ensure credibility, all data collection materials were securely retained and subsequently destroyed. Participation was voluntary and based on informed consent, with respondents informed of their right to withdraw at any time.

Participants were assured of confidentiality and anonymity, and data were coded to protect identities. The benefits of the study were clearly explained, and it was

**Kanyere et al.,** *Orapuh Journal* **2026, 7(1), e1402**

*Caregivers' perceptions of vaccination against COVID-19 infection in the city of Kinshasa: The case of Kintambo General Referral Hospital, Kinshasa, Democratic Republic of the Congo*

agreed that findings would be reported faithfully without distortion or misrepresentation.

## RESULTS

### Sociodemographic Characteristics of Participants

A total of 15 healthcare workers participated in the study. The majority were female nurses, with a smaller proportion of doctors and one bachelor-level practitioner. Participants worked across a range of hospital departments, either as care providers or as heads of units. Their length of service, reflecting professional experience, ranged from 4 to 35 years.

**Table 1:**
Sociodemographic Characteristics of Participants (n = 15)

| Participant | Age (years) | Sex | Qualification | Service/ Department | Length of Service (years) |
|---|---|---|---|---|---|
| P1 | 65 | Female | Nurse | Resuscitation | 35 |
| P2 | 64 | Female | Nurse | MID | 31 |
| P3 | 68 | Female | Nurse | MID | 30 |
| P4 | 32 | Female | Nurse | Emergencies | 32 |
| P5 | 49 | Male | Doctor | Surgery | 15 |
| P6 | 28 | Female | Nurse | Emergencies | 4 |
| P7 | 29 | Female | Nurse | Emergencies | 5 |
| P8 | 27 | Female | Nurse | Reception Room | 5 |
| P9 | 63 | Female | Nurse | Reception Room | 35 |
| P10 | 33 | Male | Bachelor | Gynaecology–Obstetrics | 5 |
| P11 | 56 | Male | Nurse | Legal Medicine | 25 |
| P12 | 46 | Male | Doctor | Gynaecology–Obstetrics (GO) | 45 |
| P13 | 46 | Male | Doctor | Paediatrics | 10 |
| P14 | 52 | Female | Nurse | Gynaecology–Obstetrics (GO) | 20 |
| P15 | 49 | Female | Nurse | Kangaroo Care Unit | 18 |

### *Thematic Analysis*

Four major sub-themes emerged from the interviews, all linked to the central theme of perceptions of COVID-19 vaccination:

1. Representations of the COVID-19 vaccine
2. Conditions for acceptability of the COVID-19 vaccine
3. Motivations for vaccination
4. Reasons for refusing vaccination

### *Representations of the COVID-19 Vaccine*

#### *Negative Representations at the Beginning of the Process*

*Perception of the Vaccine as Poison*

At the onset of the COVID-19 vaccination campaign, several healthcare workers perceived the vaccine as a poison. This perception was expressed as follows:

"I was afraid at first, because it was considered a poison put in place to exterminate us, especially us Blacks."

"I did not like the idea of having a poison injected directly into my body; I could not sacrifice myself."

"There were rumours that it was a real poison meant to exterminate the Black race; I never thought I would be a victim."

*Vaccine as a Population Control Tool*

Some participants believed that the vaccine was a strategy employed by Western powers to control the global population:

"At first, we were told that this vaccine was used to control the world in order to dominate it completely."

"I believed everything we were told, that it was a way to dominate the world, and maybe that is true."

*Vaccination as a Masquerade*

Several nurses described COVID-19 vaccination as a deception or charade:

"This vaccination is a charade; they are really deceiving us. How can it be one dose at first, then two, and now a third?"

"They are deceiving us; it has no effect. How can the pandemic disappear in our country without vaccinating everyone?"

"I doubt the effects of this vaccine; it seems like a deception."

*Vaccination as a Population Sterilisation Strategy*

Others believed that the vaccine was intended to reduce fertility, particularly in Africa:

"Apparently it is a way to slow down our reproduction. We want to have children; why would they want to block us?"

"We believed it was really a way to make us sterile, especially us who love giving birth."

**Kanyere et al.,** *Orapuh Journal* **2026, 7(1), e1402**

*Caregivers' perceptions of vaccination against COVID-19 infection in the city of Kinshasa: The case of Kintambo General Referral Hospital, Kinshasa, Democratic Republic of the Congo*

<u>*Almost Positive Representations at Present*</u>

*Vaccine as a Means of Protection*

As the vaccination process progressed elsewhere, some healthcare workers developed more positive perceptions:

"It is a good means of protection. Its effects have been proven, especially in Europe, where vaccination reduced the severity of the disease."

"Now I believe in vaccination; we have seen people stabilise after being vaccinated."

"Yes, now it is good. I believe in it and I can even accept being vaccinated."

*Effectiveness Considered with Reservations*

Although acceptance increased, some respondents still expressed doubts:

"I believe in the vaccine now, especially because I was infected myself, but many people recover without treatment."

"We seem to believe in it, but it still needs verification, as many people recovered without vaccination."

**Conditions for Acceptability of the COVID-19 Vaccine**

Most participants identified specific conditions under which they would accept vaccination.

*Vaccine Manufactured by a Reputable Laboratory*

Healthcare workers expressed concerns regarding vaccine quality and origin:

"We have reservations because elsewhere there have been deaths after vaccination, and we are not sure about side effects."

"If vaccines arrive without side effects, I think we will accept vaccination."

"I am not a guinea pig; let those who brought it take it first and see how it evolves."

*Absence of Side Effects and Non-Mandatory Vaccination*

Participants stressed the importance of safety and voluntary uptake:

"We must be sure it is a good vaccine and not something that can kill us."

"The first AstraZeneca vaccine had side effects; maybe the second one is better."

"Vaccination should not be forced. Healthcare workers are human beings first."

"Vaccination is good, but it must come from a reliable laboratory."

**Motivations to Get Vaccinated**

*Perception of Risk of Exposure*

The main motivation for vaccination was perceived occupational exposure:

"It had to start with healthcare workers because we are more exposed."

"I contracted COVID-19 because of my exposure to sick patients."

"We are more exposed than others; that is why we should be prioritised."

**Reasons for Refusing Vaccination**

*Misinformation on Social Media*

Participants highlighted the role of social media in spreading fear:

"Social networks show testimonies of side effects and deaths; this reduces confidence in the vaccine."

*Controversies Surrounding the First Vaccine*

Some respondents expressed mistrust towards the AstraZeneca vaccine:

"Even our president said he would not take the first vaccine; that scared us."

*Ignorance and Misinformation about COVID-19*

"I have never heard of a vaccine where a phone sticks to the injection site like a magnet."

*Perceived Inequality ("Human Legality")*

Participants questioned why certain vaccines were used in the DRC:

"Why is the vaccine refused elsewhere the one we are given?"

"Why vaccinate only healthcare workers and not the families who care for patients?"

*Doubts About Vaccine Safety and Effectiveness*

"Some vaccines are not effective against all variants."

**Kanyere et al.,** *Orapuh Journal* **2026, 7(1), e1402**

Caregivers' perceptions of vaccination against COVID-19 infection in the city of Kinshasa: The case of Kintambo General Referral Hospital, Kinshasa, Democratic Republic of the Congo

"If three doses are required, then one dose is not reassuring."

*Fear of Side Effects*
"We hear there are many side effects; that makes us afraid."

*Politicisation of Vaccination*
Some participants viewed vaccination as politically motivated:

"It has become politicised; politicians want to promote their own interests."

"We hear more on social media than from scientific sources."

## DISCUSSION

### Sociodemographic Characteristics
The distribution of participants by sociodemographic characteristics shows that the majority of healthcare workers who participated in the study were female nurses at A1 level, followed by those at A2 and A3 levels, and a smaller proportion at L2 level, as well as a few medical doctors. Participants worked in gynaecology–obstetrics, emergency services, paediatrics, delivery rooms, kangaroo care units, and maternity wards, either as care providers or as heads of departments. Their length of service, reflecting professional experience, ranged from 4 to 35 years.

This profile is comparable to findings from the COCONEL Group (2020), which demonstrated that individuals reluctant to vaccination were often among populations more exposed to infectious diseases, particularly young women aged 18–35 years (36%), who play a key role in childhood vaccination, as well as adults aged over 75 years (22%), who are at increased risk of severe COVID-19 outcomes.

### Results of the Thematic Analysis
The findings of this study indicate that healthcare workers' representations of the COVID-19 vaccine evolved over time. At the initial stage of the vaccination process, the vaccine was perceived as a poison, a means of population control, or a masquerade. As the vaccination campaign progressed, perceptions became more nuanced, with some participants accepting vaccination more readily, while others remained hesitant.

Similar findings have been reported in other contexts. Desclaux et al. (2020) highlighted that vaccine acceptability in African settings is strongly influenced by cultural diversity, which may shape beliefs and attitudes towards vaccination. These findings underscore the need for carefully planned and culturally sensitive strategies to address negative representations and promote informed decision-making regarding COVID-19 vaccination.

Regarding the conditions for vaccine acceptability, most participants indicated that several criteria must be met before they would accept vaccination. These included a sufficiently long expiry date, completion of all required development and approval processes, manufacture by a reputable laboratory, absence of significant side effects, and non-mandatory administration. Similar resistance has been reported elsewhere. In a study conducted in France, 23% of respondents stated that they would refuse vaccination against COVID-19, primarily due to concerns that rapidly developed vaccines might be unsafe (Hollander & Carr, 2020).

These reactions highlight that, despite substantial scientific progress, significant challenges remain concerning the future of COVID-19 immunisation. Uncertainty about vaccine safety and public acceptance continues to generate controversy not only among beneficiary populations but also among healthcare workers, who are expected to possess the expertise needed to encourage vaccine uptake. Even populations in vaccine-producing countries have expressed doubts regarding vaccination.

Vaccine acceptance reflects individuals' perceptions of disease severity and vaccine-related risks, as well as their attitudes and demand for vaccination. These factors are critical for the success of vaccination programmes aimed at achieving high coverage rates, particularly for emerging infectious diseases (Jia & Gong, 2021).

Concerning vaccine acceptability conditions, participants in this study identified two main determinants: trust in the vaccine manufacturer and the absence of side effects. These findings are consistent with those of the World Health Organization (WHO, 2019), which reported that trust in vaccine manufacturers significantly influences vaccine acceptance. Similarly, Desclaux et al. (2020) found that concerns about side effects strongly affected caregivers'

**Kanyere et al.,** *Orapuh Journal* **2026, 7(1), e1402**

*Caregivers' perceptions of vaccination against COVID-19 infection in the city of Kinshasa: The case of Kintambo General Referral Hospital, Kinshasa, Democratic Republic of the Congo*

willingness to accept COVID-19 vaccination. Addressing these concerns could therefore facilitate greater acceptance among healthcare workers.

When examining motivations for vaccination, two key factors emerged: perceived risk of exposure to the disease and what participants described as "human legality", referring to fairness and equity in vaccination strategies. Perceived disease risk has been widely reported as a motivator for vaccine acceptance, as individuals who feel vulnerable to infection are more likely to adopt protective behaviours (Chung et al., 2021).

The concept of human legality, although novel in the context of this study, has been previously observed. Lévy-Bruhl et al. (1993) demonstrated that universal vaccination within a target group can serve as a motivating factor for acceptance. In the present context, the perception that COVID-19 vaccines were primarily targeted at African populations or limited to specific professional groups, such as healthcare workers, may have contributed to hesitancy. This highlights the importance of adequate population sensitisation prior to the implementation of vaccination campaigns.

With regard to reasons for refusing vaccination, participants identified several contributing factors. Misinformation disseminated through social media emerged as a major barrier to vaccine acceptance. This finding aligns with the study by Mabakutuvangilanga Ntela and Rothan-Tondeur (2021), which demonstrated that misleading information circulating on social networks negatively affected COVID-19 prevention efforts in Kinshasa.

Controversies surrounding the first COVID-19 vaccine introduced in the DRC were also cited as reasons for refusal. This is consistent with findings by Billon-Denis and Tournier (2020), who reported that vaccine hesitancy is closely linked to distrust in vaccines promoted by governments. Similarly, a multinational survey conducted by the World Health Organization found that 72% of respondents across 19 countries would accept vaccination if a COVID-19 vaccine demonstrated efficacy and safety, while 14% would refuse and 14% remained hesitant. Acceptance rates varied widely, with rates below 60% in France, Poland, and Russia, and above 80% in China, Brazil,

and South Africa (WHO, 2020a). The WHO (2020b) further reported that vaccine hesitancy remains particularly pronounced in Africa, necessitating targeted communication strategies.

Concerns regarding side effects, safety, and vaccine efficacy were also prominent among participants. While some healthcare workers perceived vaccine side effects as tolerable, others viewed them as significant and confidence-reducing. Research on vaccine acceptance and health behaviour theories, including the Health Belief Model and Protection Motivation Theory, has consistently identified multiple determinants of vaccine uptake, such as perceived disease risk, perceived vaccine safety and efficacy, general attitudes towards vaccination, previous vaccination history, healthcare provider recommendations, cost, convenience, and sociodemographic characteristics (Demoncy, 2016).

Furthermore, studies have shown that vaccine hesitancy is strongly associated with distrust in government institutions. Research conducted by the Barcelona Institute for Global Health found substantial variability in vaccine acceptance across countries, with misinformation and conspiracy beliefs playing a significant role in shaping attitudes (WHO, 2020a). Supporting this, a study published in *Royal Society Open Science* reported that up to one third of populations in some countries believe false information and conspiracy theories regarding COVID-19, including claims that the virus was deliberately manufactured in a laboratory in Wuhan, China (WHO, 2020a).

## CONCLUSION

This study sought to explore the perceptions of healthcare workers at Kintambo General Referral Hospital regarding vaccination against COVID-19 infection. A non-probability accidental sampling approach was used, targeting healthcare workers available at the time of data collection.
A phenomenological approach supported by semi-structured interviews was employed, using an interview guide and audio recording as data collection tools. The narratives provided by healthcare workers were rich and revealing. Following an in-depth thematic and categorical analysis, the findings demonstrated that many caregivers remain concerned about receiving COVID-19 vaccination.

**Kanyere et al.,** *Orapuh Journal* **2026, 7(1), e1402**

*Caregivers' perceptions of vaccination against COVID-19 infection in the city of Kinshasa: The case of Kintambo General Referral Hospital, Kinshasa, Democratic Republic of the Congo*

These concerns underscore the need to strengthen awareness-raising efforts among healthcare workers and the general population. Clear communication of clinical trial results and scientific evidence regarding vaccine safety and effectiveness is essential to build confidence. In addition, combating misinformation on social media and promoting evidence-based judgement are critical to improving vaccine acceptance and supporting informed decision-making.

**Ethical Approval:** To ensure credibility, all data collection materials were securely retained and subsequently destroyed. Participation was voluntary and based on informed consent, with respondents informed of their right to withdraw at any time.

**Conflicts of Interest:** None declared.

**ORCID iDs:**

Kanyere, S. C.[1,2]:           Nil identified
Kadiata, B. A.[1]:            https://orcid.org/0009-0004-3811-8650
Masengu, B. R.[2,3]:          Nil identified
Mufaume, S. S.[2]:            Nil identified
Sebo, M. C.[2]:              Nil identified

## REFERENCES

**Baribeau**, C. (2019). Recherches qualitatives : Apport de la revue au développement de la recherche qualitative. *Recherches qualitatives*, *38*(1), 141-161. https://doi.org/10.7202/1059652ar

**Chung**, J. Y., Thone, M. N., & Kwon, Y. J. (2021). COVID-19 vaccines : The status and perspectives in delivery points of view. *Advanced Drug Delivery Reviews*, *170*, 1-25. https://doi.org/10.1016/j.addr.2020.12.011

**Demoncy**, A. (2016). La recherche qualitative : Introduction à la méthodologie de l'entretien. *Kinésithérapie, la Revue*, *16*(180), 32-37. https://doi.org/10.1016/j.kine.2016.07.004

**Desclaux**, A., Bila, B., Sow, K., Varloteaux, M., & Houngnihin, R. A. (2020). *Les populations d'Afrique sont-elles prêtes à accepter le vaccin anti-Covid-19 ?* The Conversation. http://theconversation.com/les-populations-dafrique-sont-elles-pretes-a-accepter-le-vaccin-anti-covid-19-149104

**Fortin**, M.-F., & Gagnon, J. (2010). *Fondements et étapes du processus de recherche : Méthodes quantitatives et qualitatives*. Chenelière Education.

**Fourboul**, C. V. (2020). *Analyser les données qualitatives en gestion*. BoD - Books on Demand.

**Gao**, T., Xu, Y., He, X., Xu, X., Wang, L., Jiang, Y., Wu, C., & Zhang, W. (2021). Epidemiological and clinical characteristics of 40 cases of COVID-19 outside Hubei Province, China. *Food Science and Technology*. https://doi.org/10.1590/fst.17321

**Ge**, H., Wang, X., Yuan, X., Xiao, G., Wang, C., Deng, T., Yuan, Q., & Xiao, X. (2020). The epidemiology and clinical information about COVID-19. *European Journal of Clinical Microbiology & Infectious Diseases*, 1-9. https://doi.org/10.1007/s10096-020-03874-z

**Goyal**, P., Choi, J. J., Pinheiro, L. C., Schenck, E. J., Chen, R., Jabri, A., Satlin, M. J., Campion Jr, T. R., Nahid, M., & Ringel, J. B. (2020). Clinical characteristics of Covid-19 in New York city. *New England Journal of Medicine*.

**Group**, R. C. (2020). Dexamethasone in hospitalized patients with Covid-19—Preliminary report. *New England Journal of Medicine*.

**Huang**, C., Wang, Y., Li, X., Ren, L., Zhao, J., Hu, Y., Zhang, L., Fan, G., Xu, J., Gu, X., Cheng, Z., Yu, T., Xia, J., Wei, Y., Wu, W., Xie, X., Yin, W., Li, H., Liu, M., & Cao, B. (2020). Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *The Lancet*, *395*. https://doi.org/10.1016/S0140-6736(20)30183-5

**Jaffré**, Y. (1999). Les services de santé « pour de vrai ». Politiques sanitaires et interactions quotidiennes dans quelques centres de santé (Bamako, Dakar, Niamey). *Bulletin de l'APAD*, *17*, Article 17. http://journals.openedition.org/apad/475

**Jia**, Z., & Gong, W. (2021). Will Mutations in the Spike Protein of SARS-CoV-2 Lead to the Failure of COVID-19 Vaccines? *Journal of Korean Medical Science*, *36*(18), e124. https://doi.org/10.3346/jkms.2021.36.e124

**Lévy-Bruhl**, D., Cook, J., Legonou, B., Jaffré, Y., Amévigbe, P. D., Sanou, G., & Guérin, N. (1993). Approches méthodologiques dans l'étude de l'acceptabilité de la vaccination : Exemple de trois enquêtes menées en Afrique de l'Ouest. *Sciences Sociales et Santé*, *11*(2), 9-25. https://doi.org/10.3406/sosan.1993.1262

**Kanyere et al.,** *Orapuh Journal* **2026, 7(1), e1402**

*Caregivers' perceptions of vaccination against COVID-19 infection in the city of Kinshasa: The case of Kintambo General Referral Hospital, Kinshasa, Democratic Republic of the Congo*

**Mabakutuvangilanga** Ntela SD et Rothan-Tondeur Monique. (2021). Covid-19 dans la ville de Kinshasa : Représentations sociales chez les fugitifs du confinement. *InterdisciplinaryResearchJournal and archive.* https://doi.org/10.36966/irjar2021.1

**Mo**, P., Xing, Y., Xiao, Y., Deng, L., Zhao, Q., Wang, H., Xiong, Y., Cheng, Z., Gao, S., & Liang, K. (2020). Clinical characteristics of refractory COVID-19 pneumonia in Wuhan, China. *Clinical Infectious Diseases.*

**WHO**. (2020a). *Coronavirus disease 2019 (COVID-19) : Situation report, 72.*

**WHO**. (2020b). *Coronavirus disease 2019 (COVID-19) : Situation report, 82.*

Restivo, L., Julian-Reynier, C., & Apostolidis, T. (2018). Pratiquer l'analyse interprétative phénoménologique : Intérêts et illustration dans le cadre de l'enquête psychosociale par entretiens de recherche. *Pratiques Psychologiques*, *24*(4), 427-449. https://doi.org/10.1016/j.prps.2017.12.001

**WHO**. (2019). Introduction du vaccin contre la COVID-19 : Orientations pour l'identification des groupes prioritaires et la micro-planification. Version 1, 18 janvier 2021. *Pan American health organization.* https://iris.paho.org/handle/10665.2/53319

**Zellweger**, J.-P. (2021). Information sur le vaccin contre le COVID-19. *Bulletin des médecins suisses*, *102*(07), 242-243. https://doi.org/10.4414/bms.2021.19624

**Zhang**, Y., Xiao, M., Zhang, S., Xia, P., Cao, W., Jiang, W., Chen, H., Ding, X., Zhao, H., & Zhang, H. (2020). Coagulopathy and antiphospholipid antibodies in patients with Covid-19. *New England Journal of Medicine*, *382*(17), e38.