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## **Determinants of Covid-19 Vaccine Resistance in Korhogo, Côte d'Ivoire**

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### **Abstract**

The Covid-19 pandemic was first reported in Wuhan, China. Faced with the dangers (multiple contaminations, restriction of social and economic life and numerous deaths) linked to the disease that affect all countries on different continents, measures have been taken, including vaccination to protect the population. However, there is a resistance of the populations, especially that of Korhogo, north of Côte d'Ivoire, to receive the vaccine against Covid-19. This mixed-methods study analyzes the determinants of resistance to vaccination against Covid-19. Data collection was based on interviews and a questionnaire administered to students, members of a cooperative and motorcycle taxi drivers. The results showed that the reluctance of the population to be vaccinated against Covid-19 can be explained by a set of determinants linked to the neglect of the actual existence of the disease, a lack of confidence in the strategies developed by the authorities in the management of the pandemic, the influence of social networks and the insecurity of the vaccine due to the side effects manifested by some subjects after receiving the first dose. These populations rely instead on preventive therapeutic prescriptions from community leaders based on local cultural practices. More extensive and diversified communication activities must be carried out for the benefit of the population, taking into account the level of education and the cultural context.

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**Key words:** Determinants ; resistance ; vaccination ; Covid-19 ; health.

## **1. Introduction**

The whole world has been affected since 2019 by Coronavirus disease or Covid-19, an infectious disease due to the SARS-COV-2 virus, reported in Wuhan, China on atypical cases of SARS (Severe Acute Respiratory Syndrome) linked to a then unknown pathogen. In January 2020, Chinese authorities and scientists identified the agent as an emerging coronavirus and confined the population of Wuhan, where the first case originated, to their homes. Most people infected by this virus experience mild to moderate respiratory difficulties and recover without treatment. Others, however, such as the elderly and those with chronic cardiovascular or respiratory disease, diabetes, or cancer, are more susceptible to the severe form of the disease and therefore require special medical attention.

This disease affects all countries, including Côte d'Ivoire, which will record its first case on 11 March 2020. In view of the dangers associated with the disease, measures have been taken by the authorities based on containment, closure of markets, prohibition of religious and social gatherings to fight against the spread of the virus despite the social and economic risk. According to Trotsenburg [1], COVID-19 has a particularly profound health, social and economic impact, this is particularly true for the poorest countries and the most vulnerable people. Recommendations have also been made to the population on the promotion of barrier measures such as social distancing, regular hand washing, the use of hydroalcoholic gels and the wearing of protective masks.

However, it is clear that the rate of infection continues to rise, leading to an exceptional spread of the disease. In view of this development, the only hope lies in the development of effective vaccines by scientists. The WHO and the countries have mobilized to distribute these vaccines because of the resurgence of infections and the rapid evolution of its new variants.

Also, the COVAX initiative for global and equitable access to Covid-19 vaccine and the African Union have worked to obtain and deliver doses to all continents [2]. The Ivorian authorities are working to provide every health center with Covid-19 vaccine.

However, access to the vaccine has been hampered by inequitable distribution, limited supply, discrepancies between promises and actual deliveries, and lack of support for implementation of vaccination campaigns. For example, the report card indicates that only 12% of the African population had received at least one dose of vaccine by early December 2021, while the United States had delivered at least one dose to more than 70% of its population [3].

Moreover, the acceptance of this vaccine by the population is not certain. In addition to the many uncertainties that weigh on its rapid implementation, we note the scepticism of those who are hesitant about the risks associated with vaccination. In this sense, Guimier [4] indicates that the negative representations of anti-

pandemic vaccination from 2009 to 2010 were exacerbated during the Covid-19 health crisis according to the CoviPrev survey conducted by Santé Publique France. In Africa, there are many obstacles to vaccination. Concerns about safety, side effects and the safety of the vaccine have been expressed among efficiency. Concerns about safety, side effects, and immunization have been expressed among health workers in all countries [5]. In the same vein, Seydou [2] also reports that the reluctance to receive a vaccine against Covid-19 is due to doubts about the safety and efficacy of vaccines and misinformation about the disease, such as that it does not really exist, that it is harmless, and that it can be cured by alternative treatments. On the other hand, O. Tuloch [6] argues that concerns about COVID-19 vaccines are often related to safety, adverse effects, vaccine ingredients, precipitated vaccine trials and the use of mRNA-based technologies. In addition, Menezes and his colleagues [5] and the Center for Strategic Studies in Africa [7] report that several factors of reluctance to vaccinate against Covid-19 are related to the suspension of the AstraZeneca vaccine in some European countries and the temporary cessation. The suspension of the Johnson vaccine in the United States has undermined confidence in vaccination in several African countries. As a result, the Afrobarometer survey reports high levels of mistrust in the ability of authorities to provide a safe vaccine in West Africa. In addition, a Geopoll survey in six African countries found that religious beliefs were a key determinant of reluctance to vaccinate, as in Niger and Liberia where 90% of respondents said that prayer is more effective than vaccination.

In addition, perceptions of the magnitude of the threat posed by Covid-19 and the risk of contracting the virus also influence behaviour. In DRC and Côte d'Ivoire, people who deny the existence of the disease are unlikely to want to be vaccinated. Indeed, the poor express greater reluctance to be vaccinated and this reluctance is more pronounced in urban than in rural areas. This reluctance to be vaccinated is according to WHO [8] one of the 10 greatest threats to global health. Guimier [4] reports that fluctuations in vaccine resistance are closely related to social, health, cultural and political contexts. Changes in vaccine reluctance are noticeable as vaccine supply improves and communication campaigns expand. It is important to monitor these changes on an ongoing basis in order to develop coherent and effective communication strategies that are responsive to the challenges raised by the emergence of variants, while sharply divergent views on Covid-19 and vaccines continue to flood social networks.

These problems of vaccine safety and reluctance led to this study on the determinants of resistance to Covid-19 vaccination in the population living in Korhogo, north of Côte d'Ivoire. What are the factors that impede the use of the Covid-19 vaccine?

To answer this question, this study analyses, through a field study, the determinants of the population's resistance to the Covid-19 vaccine in Korhogo, Côte d'Ivoire.

## **2. Matériels et méthodes**

The methodology of this mixed (qualitative and quantitative) study presents the geographical and sociological fields, the collection tools and the method of data analysis.

### **2.1. Geographic scope**

Our study took place in the city of Korhogo (Côte d'Ivoire), located about 600 km from Abidjan. Its population is composed of a majority of indigenous Senufo people followed by non-natives and non-natives from the sub-region. The city has about thirty districts, but the data were collected precisely in the OCHENIN district, which houses the headquarters of the CHIGATA cooperative, then in the Logokaha, Sodepra and Soba districts, where there is a public university and large private colleges, and finally in the city's large market, which is the preferred place for all motorcycle drivers because of the abundance of customers.

## **2.2. Sociological field**

The study concerned three categories of populations, namely students, motorized two-wheelers and members of a cooperative for the production of shea butter, a local almond used to produce oil, cosmetics and therapeutic products. The choice of these categories is explained by the proximity and closeness that characterize them as well as by the interactions with their environment in the exercise of their activities.

Indeed, the students' environment constitutes a risk factor that exposes them to the disease because they share the infrastructures and equipment with several actors (teachers, administrative, service and maintenance staff) as well as all other users, without undergoing regular maintenance.

The only public university in the region (Péléforo Gon Coulibaly) and three large private colleges (ETIC, ESICOM and SONA ABIB) were surveyed.

As for the drivers of motorized two-wheelers (called motorcycle taxis), they promote and ensure the transport of all categories of populations.

The last group of respondents is made up of members of the CHIGATA cooperative, which specializes in the production of shea butter, a product that is the pride of the region and whose virtues and qualities have spread beyond the country's borders. This cooperative is made up of a majority of women. It is an organized structure with an office composed of a president, a vice-president, an auditor, two treasurers, a communication officer and an adviser.

The choice of these subjects is explained by the fact that they do not use or rarely use protective measures, especially barrier measures, to protect themselves and others against the contamination and spread of Covid-19.

In this study, the quantitative approach involved administering a questionnaire to 60 subjects per group of respondents, for a total of 180 respondents from January to March 2022. The main sections of the questionnaire concerned knowledge of the disease and factors influencing reluctance to vaccinate.

As for the qualitative approach, 5 individual interviews were conducted with resource persons in each group, for a total of 15 interviews. These were student level delegates, leaders of the shea butter production cooperative and motorcycle drivers' groups.

## **2.3. Data collection, processing and analysis**

Data were collected through individual interviews using an interview guide, a questionnaire and an observation grid. The content of each tool is adapted to the characteristics of the three groups of respondents.

Computer processing of the quantitative data using Excel software enabled the production of statistical tables.

The qualitative data (speech) was entered using Logiciel Word and the most relevant information was subjected to thematic content analysis.

The theory of strategic analysis [9] has made it possible to determine the strategies mobilized by each group in the face of the disease, depending on the social context. Faced with constraints, actors develop strategies based on their position to achieve their objective. This is why, to protect themselves against the disease such as Covid-19, they favour local endogenous practices.

### **3. Results**

The determinants of resistance to the coronavirus vaccine are related to disease perception and practices.

#### ***3.1. Perceptions of coronavirus disease***

##### ***3.1.1. Importance of the Covid-19 threat***

The majority of the subjects surveyed do not believe in the existence of the Coronavirus disease. In fact, this disease is, according to them, an imagination conceived by the politicians, in particular the Chinese and the international community, to subjugate the weak populations, especially the Africans. This is what Y. B., a member of the CHIGATA cooperative, explains in these terms: *"Coronavirus cannot leave the country of the whites to arrive here. We have our own malaria, the corona virus and its disease are for the whites who made it, it is not for us here.*

C. N, another member of the CHIGATA cooperative also states:

Corona la, I don't believe it, it's a disease that the whites have found, and they want to send it here because we have nothing. We, we still live it here because because every day we have a cold when we get down, you see the snot running down there, and then you have a headache it looks like it's going to explode, that's what we always experience before they I don't believe in that.

The respondents thus neglect Covid-19 and equate it with certain diseases such as colds, coughs and malaria that are prevalent in their social environment. This is why, despite their knowledge of protective measures, including barrier measures, which the majority (50%) of each group surveyed identified, their application is not a priority. These are:

-regularly wash hands with soap and water, or use hydro-alcoholic gel;

-push or sneeze into your elbow or into a single-use tissue;

-maintain a distance of one meter from each other;

-greeting without shaking hands and avoiding hugs;

-wear a surgical or protective mask;

-do the covid-19 vaccine.

The objective of respecting these measures is to protect oneself and others. However, in the practice of their daily activity, the subjects surveyed do not respect these measures as observed during data collection. While in the universities, provisions concerning the restructuring of the learning environment to respect social distancing, the implementation of hand-washing devices and the mandatory wearing of a muffler are imposed on each user, this is not the case for motorized two-wheeler drivers and members of the cooperative.

The survey made it possible to observe different interactions among these subjects in the practice of their activity, which requires much more closeness and proximity.

Indeed, the shea butter manufacturing process in the CHIGATA cooperative follows an informal organization insofar as the majority of the tasks are carried out in a manual way thus:

-13 women are in charge of crushing the shea seeds;

-10 women are in charge of roasting shea seeds;

-5 women are responsible for crushing the shea seeds with a machine;

-10 women are in charge of tapping the shea leg by hand;

-5 women are in charge of preparing the shea leg to extract the oil;

-7 women are in charge of selling the finished product (marketing of shea butter);

-Finally, the two men carry out all the transport tasks.

Motorcycle taxis or motorcycle taxis with between one and three occupants or passengers in addition to the driver provide urban and interurban transport for the population alongside a few very small vehicles. The choice of customers is therefore made for these motorcycle-taxis which are more accessible in terms of cost and number of passengers, but above all because they reach their destinations or homes more easily than other taxis (vehicles) due to the general lack of practicable roads.

In these, two categories of actors, the use of barrier gestures, such as regular hand washing with soap and water, the use of hydroalcoholic gel and especially social distancing, is non-existent. As for the muffler, it is generally found on the chin of those who use it rather than on the nose and mouth.

In order to justify their non-compliance with these measures, the respondents mentioned forgetfulness, lack of habit and discomfort, but especially the absence of Covid-19 in their environment. This neglect of the real existence of the disease, linked to ideological constructs, is a factor that limits the use of vaccination to prevent and protect against the disease.

### 3.1.2. Safety deficiencies in the vaccine

The respondents make very little use of vaccination to prevent and protect themselves against Covid-19. The status of vaccination against the disease among the subjects surveyed is presented in the table below.

**Table 1:** Vaccination of respondents against Covid-19

Vaccination against Covid-19	Students		Cooperative members		Two-wheeler taxi drivers		Total	
	Eff	%	Eff	%	Eff	%	Eff	%
One dose	15	25	18	30	20	33,33	53	29,44
Two doses	10	16,67	10	16,67	10	16,67	30	16,67
Zero dose	35	58,33	32	53,33	30	50	97	53,89
Total	60	100	60	100	60	100	180	100

The data in the table indicate that in the three groups of subjects surveyed, the majority did not receive a dose of vaccine against Covid-19; 58.33% of the students; 53.33% of the members of the CHIGATA cooperative and 50% of the motorcycle drivers.

As for the respondents vaccinated against the disease, the statistics show that 33.33% of motorcycle drivers, 30% of cooperative members and 25% of students have received a first dose of the vaccine against Covid-19.

For the second dose of the Covid-19 vaccine, only 16.67% of respondents in each group received this second dose. However, none of the respondents were able to provide information or identify the type of vaccine received.

As for the reasons justifying the refusal to be vaccinated against Covid-19 by the respondents who did not receive any dose or to receive the second dose by those who received a first dose, it appears according to the respondents that side effects were manifested or reported by those who received these first doses. This causes concern among the other respondents, including C. D., a member of the cooperative, who said: *"I don't believe in their disease or in their vaccine. And then my friend did it for her, in a way that made her tired, we don't know if it's the virus they put in her, in any case I didn't do it either"*.

Also, respondent 13, a motorcycle driver, added: *"I refuse to be vaccinated because one of my sisters in the final*

*year of high school got the vaccine and then we saw that it sent other diseases to her until she was put in a balloon in hospital. So I'm afraid to do it for myself too".*

The side effects, which are of concern according to the speeches, include fever followed by dizziness, nausea, vomiting and lack of appetite. Others mention itching followed by the appearance of pimples, or fever accompanied by headaches, aches and pains and insomnia. The serious forms of these adverse effects reported are cases of fever followed by fainting observed in some respondents or in their entourage.

These respondents maintain that they may or may not have agreed to be vaccinated out of obligation or by imitation under the influence of those around them. This is the case of respondent n°10, a motorcycle driver, when he states in these terms: *"I refuse to be vaccinated because I have an educated and very rich client who refused to get the vaccine, so it is not us little people who are going to do it"*. Also, S. L., a student, maintains: *"I got the vaccine thanks to a nurse who said that the disease is very dangerous; he did it himself and encouraged us to do it"*.

On the other hand, some respondents maintained that they had received the first dose of the vaccine so as not to be marginalized within their peer group, as in the case of students. In fact, compared to their peers who have received the vaccine, those who have not been vaccinated are considered a source of contamination and therefore a threat to the others.

Finally, others had the vaccine to protect themselves or because it is an indispensable passport for crossing borders, as respondent 19, a motorcycle driver, points out: *"I had the vaccine because I travel a lot to Mali where my family lives. If you don't do it, it's too complicated to cross the border"*.

This reluctance is also linked to the doubts that persist about the quality of vaccines. This has led to the withdrawal of some vaccines because of the side effects experienced by those vaccinated in some countries, as C. Z., a student, testifies. Z., a student: *"Vaccine! vaccine! oh pkô, the very people who have done it, it all mixed up in their bodies, that's why some countries have refused these vaccines, I don't do it either"*.

Moreover, insofar as the vaccine does not guarantee the total immunity of the subject according to the specialists of health, the respondents find it inappropriate to receive some for fear that it does not support more dysfunctions in their organization rather than to preserve their health, considering the urgency in which these vaccines were created.

Thus, despite the awareness campaigns in favour of vaccination, the concerns of the population remain because of their confidence in their leaders.

### ***3.1.3. Lack of confidence in the actions of government authorities***

Resistance to vaccination against CHD is also related to the ability of individuals to adhere to CHD control strategies. Thus, according to the majority of respondents, government authorities are propagandizing about this disease in order to make more profit from it. The strategies implemented to fight the disease are not adapted to



the context, they are more modelled on the outside. This is what C. A., a student, reports: *"the government only does what the white people say, they don't think about the people, they just beg for money"*.

Moreover, according to them, all the conditions are in place to prevent the disease from spreading in the African region because of the unfavourable climatic conditions, as T. B., a member of the cooperative, said: *"The disease cannot come here because it is hot here and corona is afraid of the heat. But, because of the money from the white people, we are prevented from working, we will die even before their corona"*.

The presence of Covid-19 in Côte d'Ivoire would be a myth invented and fed by the authorities to benefit from the financial benefits that the international community grants to the different countries to fight against this pandemic. The situation of economic dependence, despite the political independence acquired years ago, means that they continue to copy and paste the strategies imposed by the international community through the quarantine of travellers, screening centres, the closure of borders and vaccination in order to benefit from the financial spin-offs of this pandemic.

All these considerations are compounded by social networks, which are a means of communication and information accessible to all populations.

#### **3.1.4. Interest in information on social networks**

The information disseminated on social networks (Facebook, WhatsApp, YouTube, Instagram etc. ) has fuelled the discourses and practices especially the acceptance and adherence to protective measures including Covid-19 vaccination. According to the respondents, certain information disseminated on social networks are the cause of their concern, which explains their resistance to Covid-19 vaccines. Among other information, we can cite those reported by respondent 30, a motorcycle driver: *"I saw on Facebook, a woman invited on a television who was talking and then fell and then we were told that it was because of the Covid-19 vaccine"*. Or the words of S. F., a student: *"In countries like Italy, we are shown many sick and dead people, but here we see nothing. So they want to give us the disease through the vaccine, I heard that on Facebook"*. Respondent 18, a motorcycle driver, also emphasized: *"On Facebook, they say that white people come here to test their vaccines, they themselves are not men or what? In any case, I don't do vaccinations"*. Also, S. M., a member of the cooperative continues: *"I watched a video on WhatsApp, of people who were even talking about the vaccine. If those who made it don't agree, I am also afraid of the vaccine, which says that it is good"*.

This information, whether true or not, but accessible to all populations because of its ease of transmission, has contributed to amplifying the concerns and fears of the populations with regard to vaccination. This is why the populations of this study area have rather adhered to the strategies developed at the local and community level by the various community and religious leaders to preserve and protect themselves against Covid-19 at the expense of the vaccine.

#### **3.2. Practices to protect against Covid-19**

Social representations based on socio-cultural and religious considerations explain the resistance to the Covid-

19 vaccine.

Culturally, since the advent of Covid-19, sacrifices of all kinds, rituals and therapeutic practices have been initiated to preserve the health of the communities among the Senufo people, according to the respondents. In fact, purification practices to ward off the evil spell of the disease were carried out under the injunction of community leaders and on a personal basis to protect members from this infection. To this effect, O. Z., a student, declared: *"The scholars here have already been consulted and we have made the sacrifices they requested. So the disease cannot reach the Senufo territory"*. Also, respondent n°12, a motorcycle driver, reports in substance: *"In the village, we do not need a vaccine against coronavirus because the chief has made a ram sacrifice at the water's edge to protect the whole village, and so far nobody has been affected by the disease"*.

These rituals, which were supported by all the members of the community because they were culturally valued, were also accompanied by therapeutic treatments through medicinal baths and herbal decoctions to protect oneself at the individual and collective levels. It is in this sense that respondent n° 1, a motorcycle driver, shares his experience: *"As soon as we talked about the coronavirus, I went to see my marabout in Mali to wash myself. I sent the medicine to wash my children too. So, when it comes to vaccines, I watch others do it"*. Or again: *"the old men asked us to wash ourselves with kabakrou soap and salt water at 4 o'clock in the morning to avoid this disease"*, Y. A, member of the cooperative.

Finally, this student K. S. also affirms: *"when you do poro, you cannot get sick like that, we have already been prepared against all that in"*.

Religious beliefs also play an important role in the reluctance to vaccinate. Some respondents, in the name of their religious conviction, choose to put their fate in the hands of God so that he can preserve them from Covid-19. Thus, respondent n°22 affirms: *"I am a Christian, and I believe in my Almighty Saviour, he can rid me of any dangerous circumstance, he protects me and will protect me, so I trust him"*.

Different strategies have been developed by community leaders based on local knowledge to fight against Covid-19 and avoid contamination.

#### **4. Discussion**

This study on the determinants of people's reluctance to be vaccinated against Covid-19 highlighted factors related to the importance of the threat posed by Covid-19, the safety of the vaccine, the lack of confidence in governance in the context of the pandemic and the influence of social networks.

Results showed that the subjects surveyed in this study area do not believe in the real existence of Covid-19 in their environment because cases of infected subjects have never been reported or declared. Instead, the disease is prevalent in other countries, especially in Asia and Europe. Therefore, it does not pose a threat to the members of their community despite the restrictions on all activities that have led to a slowdown in social, economic and political life.

The conclusions of this study converge with those obtained by previous studies. Thus, according to the analyses of Trotsenburg [1], Covid-19 has particularly profound health, social and economic impacts, especially for the poorest countries and the most vulnerable people. Also, the numerous measures deployed to prevent and fight against contamination within the population, including voluntary screening centers, barrier measures and actions, regular dissemination of contamination rates and the acquisition and distribution of vaccines in approved centers, have not convinced the population of the extent of the threat. The latter continue to live in ignorance and negligence, which leads to hesitation and reluctance in the face of vaccination, which can protect themselves and others. It is in this perspective that Guimier [4] indicates that the negative representations towards pandemic vaccination from 2009 to 2010 were exacerbated during the Covid-19 health crisis. For example, only 12% of the population in Africa had received a dose of vaccine at baseline by December 2021 compared to over 70% of the population in the United States [3].

This indifference also stems from the lack of trust and governance implemented by the authorities in the context of this pandemic. Indeed, for these populations, insofar as the disease does not exist, the governmental authorities initiate strategies to enrich themselves by benefiting from the financial resources allocated to the different countries in the framework of the fight.

In this sense, the vaccines also acquired by these authorities cannot guarantee safety because they were designed under conditions of extreme urgency and therefore lack effectiveness. This is why only one third of the subjects surveyed took the first dose under the influence of their entourage. However, the side effects experienced by some subjects who received a first dose of vaccine led to the reduction of this number by half with regard to the acquisition of the second dose.

In addition, unfavorable information and images disseminated about the disease and the vaccine through social networks have fueled fear and reluctance towards vaccination as reported by Seydou [2]. According to him, the reluctance to receive a vaccine against Covid-19 is explained by doubts about the safety and efficacy of vaccines and misinformation about the disease, including its real non-existence, its harmlessness, and the possibility of curing it through alternative treatments. Concerns about Covid-19 vaccines Tulloch [6] are also related to adverse events including vaccine ingredients, precipitated vaccine trials, and the use of mRNA-based technologies.

These concerns have led the populations, especially in this study area, to resort to local knowledge and prescriptions made by community leaders drawn from cultural practices that are strongly rooted in their daily reality. Thus, sacrifices (animals and food) and preventive therapeutic treatments (medicated baths, herbal decoctions, protective amulets, etc.) were observed individually and collectively to avoid the disease [9].

Others, however, turn to God to whom they address incessant prayers to preserve them from coronavirus infection and thus protect their lives. This is confirmed by the Geopoll survey that showed that religious beliefs were also a key determinant of vaccine hesitancy in Niger and Liberia, where 90% of respondents said that prayer is more effective than vaccination [5].

In light of the above, there is a need to increase awareness of the pandemic threat in Covid-19. Indeed, the reduction of control actions and the lifting of mandatory vaccination are the result of large-scale actions carried out to limit its spread among the population. Moreover, as long as some countries like China continue to face this pandemic, it remains a global threat with the opening of borders and especially through its new variants. To do so, more increased and diversified communication actions must be carried out in favor of the populations, taking into account the level of education which is a determining factor for their success.

## **5. Conclusion**

This study analyzed the determinants of reluctance towards the Covid-19 vaccine. Data collection from interviews with resource persons and a questionnaire administered to students, members of a cooperative and motorcycle taxi drivers in Korhogo, allowed us to highlight the factors that explain resistance to the vaccine against the disease.

Indeed, the results showed that Covid-19 is a pandemic that has affected the whole world and to curb its spread, countries have put in place several control measures to preserve contamination among the population.

However, despite the efforts made by government authorities, the report indicates that the population is reluctant to receive the vaccine. Their behavior can be explained by a set of factors related to ignorance of the actual existence of the disease, a lack of confidence in the strategies developed by the authorities to manage the pandemic, the influence of social networks, and the insecurity of the vaccine due to the side effects experienced by some individuals after receiving the first dose.

Instead, people in our study area mobilized strategies by each group in the face of the disease, depending on the social context [9]. The population give credence into the prescriptions of community leaders based on local cultural practices valued for coping with crises, including Covid-19.

This study has limitations because the sample focuses on one population group and one area. A large-scale study, including a significant number of populations and areas, should allow for a better appreciation of the menace of Covid-19. It will also encourage more reinforced actions based on communication for behavior change. For, despite a lull in control activities, the threat of Covid-19 remains real. And the vaccine remains the best way to protect oneself and others, especially with the mutation of the disease into its new, more progressive variants.

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