

## Short Communication

# Evaluation of Preventive Means Against Corona Virus Disease in Banks and Financial Cooperatives in Butembo City, Drc.

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## Keywords

- Banks
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## Abstract

**Introduction:** The corona virus disease stays the greatest pandemy never observed around the world with the highest lethality rate. This study aims at evaluating the preventive measures held by banks and financial cooperatives to protect their staffs and customers against COVID.

**Methodology:** The qualitative data have been collected thanks to a grill of interview but also by a direct observation on the exterior and interior of buildings. The analysis was done thanks to epiinfo 3. 5.4software. The related risk was calculated to appreciate the liaison between victims of confirmed cases and the non-respect of barrier measures.

**Result:** The gender is not respected in banking institutions, sex ratio man/woman of 7/3. The prevalence of Covid-19 was 10.7%. a high risk was observed with the absence of points of hand washing (RR= 3.3), the wearing of facultative mask in the interior (RR= 4), the non-respected physical distance (RR=14), the lack of limit of entries (RR= 2.4), lack of a trained agent in protection and infection control (RR= 9.5).

**Conclusion:** The barrier measures are not completely respected the retort against epidemies should consider the banks, like other public areas, among the sites on which one should react to cut the chain of transmission

## INTRODUCTION

The pandemy of corona virus 2019 disease (COVID-19) let one pay a heavy tax to individuals, families, communities and societies all over the world. The whole worlds face a sanitary crisis due to the pandemy of covid-19. Since the beginning of the epidemy, they number more than 668,229,478 cases of corona virus through the world and 6,734,681 deads [1].

Having reached the last proposals in a great number of touched countries by the pandemy, the sanitary and socio-economic consequences can be more pronounced at the level of African countries, especially of weak or limited income [2].

The Democratic Republic of Congo declared a state of health emergency some days After the beginning of the epidemy of the disease of coronavirus in March 2020. From that there was the organization of the secretariat of national retort, multisectorial committee of retort, to the pendemy of covid-19 in DRC- CMR covid-19, and teams of retort, at the level of 26 provinces [3].

At beginning of the year 2023, the cumul of cases is 95452 cases, from which 95450 cases confirmed and 2 probable cases. In total, there are 84223 cured persons and 1463 dead. Since the beginning of vaccination in DRC, on 19 April 2021 till april 2023,

27950467 persons were vaccinated among whom 12732813 were completely vaccinated from whom 11,732,307 with Johnson-Johnson vaccin.

According to the cordonator for the anti covid-19 retort in DRC, the first vague of covid-19 was the most harmful with a morality rate of about 5,6% followed by the second vague which the rate is evaluated to 2,4%. The third vague knew a morality rate of 2,1% against the fourth vague, which is at less than 1%. This last vague according to the coordonator of the technical secretariat of the retort against covid-19, was week [4]. The North-Kivu province where there is Butembo City, stays the second the most touched in the country.

From presently available data, the virus is mainly transmitted among people who are in straight contact with one another, generally at less than a meter (weak distance) a person can be infected when one inhales aerosols or droplets containing the virus or when these latter enter directly in contact with one's eyes, nose or mouth. The virus can also be transmitted in the internal spaces badly ventilated and/or crowded, where there is tendency to stay longer, because the aerosols remain in suspension in the air or move on high distance at one meter (long distance). One can also be infected when one touches the contaminated surfaces

by the virus, because one touches the eyes, nose or mouth before washing hands [5].

In Democratic Republic of Congo, there were delayed referral, self-medication and stigma that influenced the disease severity and contributed to the high mortality we have observed [6].

The most risky persons are the health staffs and all those who work in public places like the banks and the financial cooperatives. It is then imperial to put in application the measures with strict observance.

Several studies have shown that the fiduciary currency could be a vector of propagation of covid-19. China and the South Korea which were the epicenter of the pandemy have very quickly spread the barrier measures to fiduciary currency by proceeding to disinfection of banknotes. On their side, in the USA, the authorities systematically place in quarantine during several days the dollars coming from Asia [7]. The same studies show that the human corona virus can persist on the metal, the glass or the plastic till 9 days, and in average of 4 to 5 days on the paper. In addition of customers infatuation in the financial institutions, the recurring usage of banknote in the commercial transactions in DRC and in Butembo city in particular, bring us to focus our analysis on the taken measures to avoid the risk of covid-19 propagation.

Considering the considerable amplexness of the crisis provoked by this pandemy which involves the national measures-taking to react daily especially by the restriction of certain liberties as the liberty of going and coming, of meeting and undertaking, the president of the republic proclaimed the sanitary emergency state to react against the pandemy of covid-19 on the date of 24 March 2020. Since then banks and financial cooperatives were obliged to restrain their activities and take preventive measures for the staffs and the customers. Butembo city counts five banks and about ten financial cooperatives for a population estimated to 900 000 inhabitants with, as principal activity, business and agriculture.

The objective of our study is to evaluate strategies and measures organized by these organizations to protect their staffs and customers for a limit of corona virus propagation.

## METHODOLOGY

We have made a transversal descriptive study from 1st October to 22 December 2022 on the whole of banks and financial cooperatives of Butembo city. We proceeded with interviews at the managing directors and agents of Banks and financial cooperatives as well as the observation in the buildings.

The interview looked at : the number of agents having been confirmed positive covid, number of dead, number of vaccinated agents against covid-19, type of benefit (partial or permanent time), distance between home and the work place as well as the type of transport (private or common), agents with co-morbidities and the average number of customers per a day-the observation looked at : wearing of masks by the staff and

by the customers, washing point of hands, availability of hydro-alcoholic solution, presence of the entry of an agent trained in prevention and control of infections (PCI), taking temperature at the entry, telephone number of the retort team against Covid, slip of security consigns, seats disposed in physical distance for the staffs and customers, disinfection of surfaces and door wists, limit of number of simultaneous entries inside the buildings.

For writing the encoding and analysis of data, we used EP INFO software version 3. 5. 4. The related risks (RR) were estimated and their intervals of confidence at 95% (IC95%) and served to measure the force of the association between the independent considered variables and the overcome or not of covid-19. The threshold of the chosen signification was 0.05 for all the analyses.

## RESULTS

The (Table 1) below shows the characteristics linked to the staffs : sex, age, covid confirmed cases, deads, contact cases and put in quarantine number of vaccinated agents against covid-19, type of benefit (partial or permanent time), distance between home and work place as well as the type of transport (private

The (Table 2) below evaluated the sanitary security disposals organized at the entry of buildings,  $n_i$  represents the effectives of the concerned institutions among the 11 selected in the city.

The (Table 3) below evaluates the preventive measures organized inside the buildings,  $n_i$  represents the effectives of the concerned institutions.

The following (Table 4) characterizes entailed risk in function of diagnostic cases tested positive.

## DISCUSSION

Now any study of the kind had never been done in the province. We have taken all the banks and financial cooperatives of Butembo city. The gender is not respected in banking institutions in Butembo city, sex ration M/F of 7/3 or 68.75% men and 31.25% women (Table 1). Ulla Forseth, Carla Dahl-Jorgensen

**Table 1:** Sociodemographic and clinic characteristics of staffs

Characteristics	$n_i$	Frequency
Sex	Masculine	154 68.75
	Feminine	70 31.25%
Age	20-40 years	62 27.7%
	40-60 years	134 59.8%
	> 60 years	28 12.5%
Confirmed positives Agents		24 10.7
Contacts agents and put in quarantaine		58 26%
Deads of Covid-19		1 0.4%
Number of vaccinates staffs		83 37%
Permanent staffs		218 97.3%
Part-time staff		6 2.7%
Means of transport	In private	108 48.2%
	In common	116 51.8%
Co-morbidities	Yes	81 36.2%
	No	143 63.8%

**Table 2:** Disposals organized at the entry of buildings

Taken measures	n, N=11	Percentage
Presence of trained agent in PCI	3	27.3
Fonctional washing hands point	7	63.3
Obligatory wearing mask	9	81.8
Obligatory temperature taking	8	72.7
Availability of hydroalcoholic gel	5	45.4
Availability of telephone contact of the restort team against COVID-19	2	18.1
Availability of slips for consigns of security	6	54.5

**Table 3:** Measures organized inside the buildings

Taken measures	n, N=11	Percentage
Limit of the number of simultaneans entries inside the buildins	8	72.7
Obligatory mask wearing	4	36.3
Physical distanciation respected in seats between customers	8	72.7
Physical distanciation respected among the staffs and customers	11	100
Presence of glasses in plexiglass between the staff and the customer at the counter	9	81.8
Daily disinfection of surface	5	45.4

**Table 4:** Risk in function of diagnostic cases

Factor of exposition		Confirmed cases	Tested negative	Total	RR	p-value
No hands washing point	Yes	16	68	84	3.3	0.001
	No	8	132	140		
Facultative mask wearing inside	Yes	19	88	107	4	0.001
	No	5	112	117		
No-respected physical distanciation	Yes	21	54	75	14	<0.001
	No	3	146	149		
No limit of entries	Yes	15	77	92	2.4	0.02
	No	9	123	131		
Lack of a trained agent of PCI	Yes	22	98	120	9.5	<0.001
	No	2	102	104		

have found, in their sampling, 22% of women against 35% of men were responsible of supervision or direction of the department market-private of the bank. There were few women-Directors of the bank at the top, two out of ten [8]. It is possible that women who are found in a few number among the men become symbols and replaced for all the women or they take advantage to be « different » and by the fact even very visible.

The manner to treat the information also changes in function to age. Several studies have shown that young people treat information in a different way of aged persons. The choice of sources of personal or professional information changes in function of age [9]. In an empirical study realized by Hamouda, et al, the result as showed that the age has a significant moderating effect [10].

A great noticed incidence at the staffs (10.7%) in our study was explained by the non-respect of barrier measures in some banking or financial institutions but also 51.8% took the common transport and 36.2% had co-morbidities however 26% of agents were put in quarantine and a rate of lethality of 0.4%, a lower rate

than the one known on the national plan according to the multi-sectorial committee of retort in DRC [4]. For some groups in high risk living or working in the closed areas, a specific reinforced control is necessary in order to detect the cases and groups of the cases quickly than by the control ensured and the level of primary cares or in hospital area. The persons who live in closed areas, such as prisons, residential compounds, houses of retired and other structures of reception, can be particularly vulnerable face to covid-19. In fact, these people live in environments where the probability of transmission can be higher than in the general population and they can present health problems or predisposition factors which increase their risk of grave disease or death. The supervision reinforced in the closed areas consists of making an active research of case by doing a daily control to detect the signs and eventual symptoms, and to ensure daily notification, even in the absence of case, for all the persons belonging to groups in high risk targeted by the supervision [11].

Only 37% of agents of baking institutions and micro finances were vaccinated against COVID-19. In DRC, since the beginning of vaccination, on 19 April 2021, 10286383 persons have been vaccinated among them 849639 have received their second doses and 7974065 have been completely vaccinated in a accordance to the target, especially 53,984,184 persons to vaccinate [4]. For the disposals of sanitary security organized at the entry of buildings, any measure was not respected in all the institutions, and even less than 30% and 20% have respectively a trained agent in PCI and availability of the telephone contact of the retort team against COVID-19. The preventive measures organized inside the buildings have not been also followed in all the institutions; only the physical distance between the staffs and the customers has been respected in 100%. We have found a high risk and a statistically significant association between the overcome of confirmed cases with the absence of hands washing points (R = 3.3), facultative wearing of mask inside (RR = 4), physical distance non-respected (RR = 14), lack of limit of entries (RR = 2.4), lack of trained agent in PCI (RR = 9.5). Peter Jiini and his collaborators have also found the straight links between COVID-19 and the interdiction of great gatherings (RTI 0.65, IC to 95% 0.53 – 0.79), the closing of school institutions (RTI 0.62, IC to 95% 0.45 – 0.85) [12]. Two recent studies done in USA referred to the data of survey to evaluate the efficiency of individual measures in schools. Gettings et coll.19 used survey data coming from 169 schools (kindergartens up to 5th year) of Georgia state to examine the link between the incidence of COVID-19 at school and the measures of public health in the classroom (mask wearing, flexible medical vacation, ventilation improvement, distance and installation of barriers at the offices).

The data were welcomed in November and December 2020. The obligatory mask wearing by teachers and staffs (but not by pupils) and the association of ventilation by dilution and filtration of air seemed to reduce the incidence of COVID-19 in school area.

In fact, the schools having installed barriers at offices and the tables of all the classes (n = 38 schools) have not presented any diminution of risk related to COVID-19, comparatively to school having not installed or having installed in some classes only.

This result brings to think that the barriers did not help to reduce the transmission. In addition, the analysis of data related to the improvement of the ventilation did not show any difference about the incidence of COVID-19 between the schools having brought improvements and those who do not know if the improvements had been brought [13].

Herstein et coll. Tried to quantify the effects of the mask wearing and of the installation of barriers on the incidence of COVID-19 in 13 factories. Among the 11 factories having adopted these two measures, eight presented a significant diminution of the incidence of COVID-19, it presented an increase, and two did not present change.

Three of the factories welcomed sufficiently data to examine the differential effect of the adoption of the mask wearing first, then the installation of barriers after a certain time. In two of these factories, the addition of barriers and the mask wearing caused an important diminution of cases of COVID-19. However, in the third factory, the mask wearing was sufficient to itself alone to reduce, the incidence of COVID-19, and the addition of barriers did not bring any supplementary advantage. Two factories simply adopted the mask wearing (not of barrier) and any among them did not noticed a significant reduction of the incidence of COVID-19 during the period of the study [14].

Despite the stakes associated to their deployment, the physical barrier can be advantageous in some situations or some areas, during or after the pandemic other studies are necessary for understanding the importance of their potential effect on the transmission of a disease. In public places, the installation of mechanical barriers reduces (without eliminating) the dispersion of the coronavirus. It also appears that the fundamental purposes of using barriers are poorly understood, leading to counterproductive initiatives (e.g., locking multiple people into a compartment) and the use of barrier measures without taking into account social aspects. However, the value related to barriers could be higher in some areas than in others, that is why other studies should compare the efficiency of barriers in diverse areas, particularly in restaurants, where the mask wearing is not possible. Finally, as we are interested more and more in sharing of air among people, it should be potentially useful to question oneself on the role that barriers could play in the future areas of resilient work to pandemics [15]

## CONCLUSION

The staffs of banking institutions and micro finances work all in public places and are then exposed to infections contaminations by respiratory way unfortunately our survey has shown that barrier measures are not completely respected there. The teams of retort against the epidemics should consider these institutions, as the other public areas, among the sites on which one should constantly react to cut the transmission chain.

It has already been shown that in hospitals, good hygiene and COVID-19 prevention practices have been significantly improved. This reduced the risk of contamination of health personnel. It is important to implement training programs on health safety in banking institutions as happens in hospitals [16].

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