



Barrier Gestures Regarding Covid-19: Knowledge, Attitudes and Practices of the Population of the Bobozo Health District in Kananga in the Democratic Republic of Congo

Pascal Pambi Mukanga¹, Théophile Mukonkole Yalumami^{2,3,4}, Dominique Ilunga Masumbuku¹, Célestin Ngalamulume wa mpesa¹, Jean Paul Sangunu Samapangu¹, Thierry Nshimbi Lubaba⁴, Mucaïl Mucaïl Teddy⁴, Célestin Kamoyi Kamoyi¹, Éric Ngoy Wa Muamba³, Emmanuel Tshilembi Bowa⁵, Erick Banza Lubaba Nkulu⁶, Irène Ngoy Katombo⁷, Johon Mwanza Lukusa⁸, Hendrick Mbutshu Lukuke⁴, Bienfait Mwarabu Much'apa⁴, Simon Ilunga Kandolo^{4*}

¹School of Public Health, University of Kananga, Kananga, Democratic Republic of Congo

²National Border Health Program, Lubumbashi Pools, Lubumbashi, Democratic Republic of Congo

³School of Public Health, University of Manono, Manono, Democratic Republic of Congo

⁴School of Public Health, University of Lubumbashi, Lubumbashi, Democratic Republic of Congo

⁵Kananga Pedagogical University, Kananga, Democratic Republic of Congo

⁶Department of Electronic Engineering, Control and Instrumentation, Durban University of Technology Alumni, Durban, South Africa

⁷Department of Food Science, Lubumbashi Agri-Food Research Center (CRAA), Lubumbashi, Democratic Republic of Congo

⁸Department of Public Health, Simon Kimbangu University, Lubumbashi, Democratic Republic of Congo

Email: *silungak@gmail.com, profsimonilunga@gmail.com, ilunga.kandolo@unilu.ac.cd

How to cite this paper: Mukanga, P.P., Yalumami, T.M., Masumbuku, D.I., wa mpesa, C.N., Samapangu, J.P.S., Lubaba, T.N., Teddy, M.M., Kamoyi, C.K., Muamba, É.N.W., Bowa, E.T., Nkulu, E.B.L., Katombo, I.N., Lukusa, J.M., Lukuke, H.M., Much'apa, B.M. and Kandolo, S.I. (2024) Barrier Gestures Regarding Covid-19: Knowledge, Attitudes and Practices of the Population of the Bobozo Health District in Kananga in the Democratic Republic of Congo. *Open Access Library Journal*, 11: e12591.

<https://doi.org/10.4236/oalib.1112591>

Received: November 8, 2024

Accepted: December 27, 2024

Published: December 30, 2024

Abstract

Introduction: Covid-19 is an epidemic that has changed the global economic and health system. The objective of this work was to evaluate both the level of knowledge of the population about Covid-19 and the application of barrier gestures in the Health District of Bobozo in Kananga in the Kasai Central Province in the Democratic Republic of Congo. **Methods:** A cross-sectional descriptive study was carried out and covered a period of one year, *i.e.*, from January 1 to December 31, 2022. The data were first entered and encoded in Excel and then analyzed using Épi Info version 7.2.5.0. **Results:** In the majority of cases, radio was the channel used for information, *i.e.*, 76% compared to 3.3% of respondents informed by the Community. Nearly half of the population cited coughing as a sign of Covid-19. In the selected sample, 64% of respondents blamed hand greetings as the main mode of contamination. In 52% of cases, the mask was the most used barrier measure. On the other hand, more than a third of cases

Copyright © 2024 by author(s) and Open Access Library Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

(*i.e.*, 36.5% of the population surveyed) did not use barrier measures under the pretext that Covid-19 was a disease of rich people. **Conclusion:** The level of knowledge of Covid-19 was found to be acceptable in Kananga. However, the population has not shown a good perception of the origin of Covid-19 and the application of barrier gestures against said disease. It is therefore important to amplify health education in the different socio-political-cultural layers to fight against resistance to barrier gestures not only for Covid-19 but also for other epidemics.

Subject Areas

Public Health

Keywords

Covid-19, Barrier Measures, Attitudes, Knowledge and Practices, Kananga

1. Introduction

Covid-19 was declared a pandemic by the World Health Organization (WHO) as confirmed cases approached 200,000 patients and more than 8,000 deaths were expected to be recorded in more than 160 countries [1]. After the initial description in Wuhan (China), Italy was the first affected region in Europe and the impact was immense [2].

The virus spread very quickly so that 2 weeks after the diagnosis of the first cases, 1000 patients tested positive. A week later, the number of positive cases exceeded 4600, reaching more than 30,000 patients and 2500 deaths on March 18, 2020 [1]-[3].

When Covid-19 was declared a pandemic by the WHO on March 11, 2020, a total of 47 confirmed cases of Covid-19 including 28 imported cases (60%), with no deaths, were reported in 9 countries including the Republic Democratic Republic of Congo (DRC) which counted already a case recorded in its capital, Kinshasa [4].

The Covid-19 pandemic continues to impose a heavy burden on people around the world. The Democratic Republic of the Congo (DRC) has also been affected [5].

The objective of this work was to evaluate both the level of knowledge of the population about Covid-19 and the application of barrier gestures in the Health District of Bobozo in Kananga in the Kasai Central Province in the Democratic Republic of Congo.

2. Methodology

2.1. Study Framework

Our study took place in the Kasai Central Province, precisely in the Bobozo Health District in the urban environment of Kananga in the Democratic Republic of

Congo.

2.2. Type of Study and Period of Study

We conducted a cross-sectional descriptive study over the period extending from January 1 to December 31, 2022.

2.3. Target Population

The target population was made up of the population residing in the Bobozo Health District.

2.4. Sampling

2.4.1. Sampling Technique

We opted for non-probability snowball sampling.

2.4.2. Inclusion Criteria

All people residing in the Bobozo Health District, present during our field trip, available and having agreed to answer our survey questionnaire were included in this study.

2.4.3. Sample Size

We included 422 individuals who freely agreed to participate in the survey.

2.5. Data Collection Materials and Techniques

2.5.1. Data Collection Materials

We used a pre-established and pre-tested survey questionnaire to collect data that was useful for this study.

2.5.2. Data Collection Techniques

Structured interviews and direct observation were used as necessary information gathering techniques.

2.6. Variables Studied

The main study variables were sociodemographic characteristics, the population's knowledge of barrier gestures regarding Covid-19, and their attitudes and practices.

2.7. Data Management and Analysis

Data entry and encoding were carried out using Excel software while statistical analyzes were carried out by Epi Info version 7.2.5.0.

2.8. Ethical Considerations

The main ethical principles (such as anonymity and confidentiality of the data collected as well as the free and informed consent of the respondents) were rigorously respected.

3. Results

3.1. Sociodemographic Characteristics

Most of the selected respondents were male (56%), aged 25 - 29 (46%), with secondary education (45%), married (75%), and government employees (47%) (See **Table 1**).

Table 1. Distribution of respondents according to socio-demographic characteristics.

Variables	Frequency (n = 422)	Percentage
Gender		
Male	238	56
Female	184	44
Ages (Years)		
15 - 19	73	17
20 - 24	56	13
25 - 29	194	46
30 - 34	84	20
≥35	15	4
Profession		
Liberal profession	69	16
Public sector	197	47
Education	45	11
Private sector	71	17
Others	40	9
Matrimonial Status		
Bachelor	45	11
Married	315	75
Divorce	25	6
Widow	37	8
Education Level		
Without level	56	13
Primary	95	23
Secondary	188	45
University	83	19

3.2. Knowledge of Covid-19

Table 2 indicates that almost all of the respondents declared having knowledge of Covid-19, *i.e.*, 98% of cases.

Table 2. Distribution of respondents according to knowledge of Covid-19.

Knowledge of the Covid-19	Frequency	Percentage
Yes	415	98
No	7	2
Total	422	100

3.3. Information Channel

It appears from **Table 3** that the radio and the Church proved to be the main sources of information on Covid-19, with 75.7% and 12.3% respectively, compared to 3.4% of cases in which the community was informed.

Table 3. Distribution of respondents according to information channel.

Information Channel	Frequency (n = 415)	Percentage
Radio	314	75.7
Church	51	12.3
Friend	36	8.7
Community	14	

3.4. Known Signs of Covid-19

Table 4 shows that dry cough (51.6%) and difficulty breathing (20.5%) were mainly cited as signs of Covid-19.

Table 4. Distribution of respondents according to known signs of Covid-19.

Known Signs of Covid-19	Frequency (n = 415)	Percentage
Dry cough	214	51.6
Breathing difficulty	85	20.5
High fever	46	11.1
Other signs	70	16.9

3.5. Known Modes of Contamination of Covid-19

Table 5 presented above shows that the respondents incriminated hand greeting (64.3%) and contact either with a patient (24.1%) or with a contaminated object (10.4%) as the main modes of contamination of Covid-19.

Table 5. Distribution of respondents according to known modes of contamination of Covid-19.

Known Modes of Contamination of Covid-19	Frequency (n = 415)	Percentage
Hand greeting	267	64.3
Contact with a patient	100	24.1
Contact with a contaminated object	43	10.4
Contact with contaminated liquid	20	4.8
Sexual intercourse	5	1.2

3.6. Barrier Measures Used

Table 6 shows that the main barrier measures used to avoid Covid-19 were wearing a mask (51.6%) and respecting social distancing (23.4%).

Table 6. Distribution of respondents according to the barrier measures used.

Barrier Measures Used	Frequency (n = 415)	Percentage (%)
Wearing a mask	214	51.6
Respect for social distancing	97	23.4
Use of disinfectants	80	19.3
Prohibition of the hand salute	24	5.8

3.7. Regular Practice of Barrier Measures

It appears from **Table 7** that more than three-quarters of the respondents (*i.e.*, 77.3% of cases) declared that they regularly practice barrier measures to fight against Covid-19. The main barrier measures used to prevent Covid-19 were wearing a mask (51.6%), respecting social distancing (23.4%) and using disinfectants (19.3%).

Table 7. Distribution of respondents according to the regular practice of barrier measures.

Regular Practice of Barrier	Frequency	Percentage
Yes	321	77.3
No	94	22.7
Total	415	100

4. Discussion

4.1. Sociodemographic Characteristics

It appears from the study carried out that the respondents were mainly male (56%), aged 25 to 29 years (46%), with secondary education (45%), married (75%) and civil servants, the State in 47% of cases (**Table 1**). A study carried out in Lubumbashi found that a large proportion of respondents were men and the most represented age group was between 18 and 24 years old [6].

4.2. Knowledge of Covid-19

In the selected sample, 98% of respondents said they were aware of Covid-19 (**Table 2**). A study conducted in 2022 in Kananga by Richard Bokele and allies reported that almost all respondents claimed to have already heard of Covid-19 (98.2%) [7].

4.3. Barrier Measures Used

The barrier measures used by the population surveyed to avoid Covid-19 were mainly wearing a mask (51.6%), respecting social distancing (23.4%) and the use

of disinfectants in 19.3 % of cases (**Table 6**). The results of a study carried out in Benin show that nearly 6 out of 10 respondents (*i.e.*, 58% of cases) wore a mask [8]. In the town of Kananga (in the Democratic Republic of Congo), a study observed that 60.8% of study participants regularly wore a mask, nearly 52% of cases claimed to respect distancing and 79.3% of surveyed said they washed their hands regularly [7]. Mainly washing hands (89.1%), respected physical distancing (41.8%) and wearing a mask (12.7%) were washed their hands, 41.8% respected physical distancing and 12.7% wore a mask the barrier measures used by the population surveyed to avoid Covid-19 at Departmental University Hospital Center Ouémé-Plateau, Benin, in 2021 [9].

In Sudan, among 362 students from the International University surveyed, 80.6% of participants understood social distancing correctly [10].

4.4. Regular Practice of Barrier Measures

More than three-quarters of respondents (*i.e.*, 77.3% of cases) declared that they regularly practice barrier measures to fight Covid-19 (**Table 7**). The regularity of compliance with barrier measures was also effective in a study carried out in 2022 in Lubumbashi [6]. The population's adherence to preventive measures is crucial for the success of the fight against the Covid-19 epidemic, whether it is a question of respecting barrier gestures or vaccination [11].

5. Conclusions

A cross-sectional descriptive study was carried out on the population of the Bobozo Health District in the city of Kananga during Covid-19. The objective of this work was to evaluate not only the level of knowledge of the population about Covid-19 but also the application of barrier gestures in the Bobozo Health District.

Almost all of the respondents said they were aware of Covid-19, *i.e.*, 98% of cases. More than three-quarters of respondents (77.3%) said they regularly practice barrier measures to fight Covid-19. The main barrier measures employed were wearing a mask (51.6%), respecting social distancing (23.4%) and using disinfectants (19.3%).

Regular and adequate communication is necessary to encourage the population to respect barrier gestures not only against Covid-19 but also for any epidemic because the resilience of a health system also depends on good communication in terms of health education.

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] WHO (2022) Epidémie de la maladie du Coronavirus (COVID-19). <https://www.who.int/fr/news/item/05-05-2022-14>
- [2] Pellino, G. and Spinelli, A. (2020) How Coronavirus Disease 2019 Outbreak Is Impacting

- Colorectal Cancer Patients in Italy: A Long Shadow beyond Infection. *Diseases of the Colon & Rectum*, **63**, 720-722.
<https://doi.org/10.1097/dcr.0000000000001685>
- [3] WHO (2020) WHO Director-General's Opening Remarks at the Media Briefing on COVID-19–11 March 2020.
<https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>
- [4] WHO (2020) COVID-19 Situation Update for the WHO African Region 11 March 2020. External Situation Report 2.
<https://www.afro.who.int/health-topics/coronavirus-covid-19#sitreps>
- [5] Kashiya, Y., Ekofo, J., Kabanga, C., Agyepong, I., Van Damme, W., Van Belle, S., *et al.* (2023) Multilevel Governance and Control of the COVID-19 Pandemic in the Democratic Republic of Congo: Learning from the Four First Waves. *International Journal of Environmental Research and Public Health*, **20**, Article No. 1980.
<https://doi.org/10.3390/ijerph20031980>
- [6] Bute, M.B.M., Lugoma, C.K., Mupanda, Y.M., Watanga, V.B.N., Djino, M.U., Mulaji, P.K., *et al.* (2022) Knowledge Attitudes and Practices of Students Regarding the Vaccine against Covid-19. Case of Students Living on the University Campuses of the University of Lubumbashi. *Open Access Library*, **9**, 1-10.
<https://doi.org/10.4236/oalib.1108996>
- [7] Bokele, R., *et al.* (2022) Connaissance, attitudes et pratiques sur la covid-19 de la population exposée à un risque élevé de contamination dans un pays en voie de développement: Cas de la population de Kananga en RDC.
https://www.researchgate.net/publication/362310264_Connaissance_attitudes_et_pratiques_sur_la_covid-19_de_la_population_exposee_a_un_risque_eleve_de_contamination_dans_un_pays_en_voie_de_developpement_cas_de_la_population_de_Kananga_en_RDC
- [8] Hadj, E.L. and Imorou, S. (2021) Connaissance et Pratique en lien avec des mesures preventives du Covid-19: Cas des acteurs du systeme éducatif de la commune de Parakou au nord Benin. *Revue Internationale de Linguistique Appliquée de Littérature d'Education*, **4**, Article No. 15.
- [9] Houehanou, Y.C.N., Wanvoègbe, A., Hounto, A.T., Béhanzin, L., Agonnoude, M., Houéto, D., *et al.* (2024) Practice of Barrier Measures against COVID-19 among Diabetic People Followed at Departmental University Hospital Center Ou Plateau, Benin, in 2021. *Open Journal of Epidemiology*, **14**, 249-259.
<https://doi.org/10.4236/ojepi.2024.142017>
- [10] Ahmed, E.M.M., Elnour, S.M.B., Abdelkhalig, S.M., Ahmed, S.A.M., Eltaib, J.A.H., Mustafa, N.G., *et al.* (2023) Adherence to Preventive Measures during the COVID-19 Pandemic among University Students in Sudan. *Open Journal of Internal Medicine*, **13**, 408-426. <https://doi.org/10.4236/ojim.2023.134036>
- [11] Eysenbach, G. (2020) How to Fight an Infodemic: The Four Pillars of Infodemic Management. *Journal of Medical Internet Research*, **22**, e21820.
<https://doi.org/10.2196/21820>