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Evolution of the Population's Perception of the Covid-19 Pandemic in the Town of Mbujimayi between the Beginning and the End of the Pandemic

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Abstract

Objective

To explore the evolution of the perception of the population of the city of Mbujimayi regarding the COVID-19 pandemic between its beginning and its end.

Methods

This was a cross-sectional descriptive study conducted from December 1 to 15, 2022 among the population of the City of Mbujimayi eligible for the inclusion criteria. The face-to-face interview technique with people using a structured questionnaire was used to collect information.

Results

345 subjects were interviewed, the majority of whom were female (56.52%), mostly single (51.3%). All of the subjects interviewed had already heard of COVID-19. The majority had been informed by radio/television (96.52%). At the start of the pandemic, 53.91% thought that COVID-19 was a mystical disease. At the end of the pandemic, 80.87% of respondents thought that COVID-19 was a disease with a well-defined cause. In relation to the origin at the beginning of the pandemic, 36.52% thought that the disease was transmitted by respiratory aerosol and 24.92% thought that the disease was sexually transmitted. At the end of the pandemic, 95.07% and 92.17% thought respectively that the disease was transmitted directly between humans and by respiratory aerosol. At the beginning of the pandemic, 80.57% thought that the application of barrier measures was difficult and 52.40% considered the application of barrier measures unnecessary. This situation completely changed at the end of the pandemic where 91.59% of respondents considered barrier measures easy to apply and only 9.56% of subjects persisted in believing that the application of barrier measures was of no importance. Considering the positivity towards Covid 19, 93.04% and 91.29% respectively believed that the case should be concealed, especially if it is a close relative, and that they should keep their distance. At the end of the pandemic, 94.19% and 68.41% respectively believed that the suspected case should be taken to the hospital or the emergency services should be called.

Conclusion

As a conclusion, the perception of the population of Mbujimayi towards Covid 19 has changed positively as reliable information reached the population.

Keywords: Covid 19, Perception, Comparison, Mbujimayi

1. Introduction

The SARS-CoV-2 virus is a virus belonging to the coronavidæ family. It is responsible for respiratory infections in mammals and birds. They are RNA viruses, grouped into four subfamilies: Alpha coronavirus, beta Coronavirus, gamma coronavirus and

Delta coronavirus [1].
Coronaviruses are enveloped single-stranded RNA viruses. They infect a wide variety of species and are divided into four genera: And according to their genomic structures. SARS-CoV-1, Middle East respiratory syndrome coronavirus (MERS-CoV) and SARS-CoV-2 responsible for Covid-19 are classified among the so-called emerging B coronaviruses. Coronaviruses have four structural proteins: Spike (s), membrane (M), envelope (E), and nucleocapsid (N) [1].
There are six main species responsible for human infections; four are responsible for benign pathologies in immunocompetent patients (Hcov-229 E, Hcov-oc43, Hcov-NL63 and Hcov-HKUI); two others are responsible for serious and fatal epidemics: SARS-COV1 and MERS-COV (Middle East respiratory syndrome) identified respectively in 2008 and 2012 [1].
In Asia, the recent flash pandemic of COVID 19 began in China in Wuhan, in the Hubei province of China [2]. In January 2020, the first cases outside Chinese territorial limits were reported worldwide (3-4). In March 2020, the WHO declared a pandemic in view of the alarming level of the spread of COVID-19 [5].
The first confirmed case of covid 19 confirmed on African territory was in February 2020 in Egypt. South Africa has been the country hardest hit by the pandemic on the continent. In the Democratic Republic of Congo, the first case was confirmed in Kinshasa on March 10, 2020.
This was an imported case, and as of March 20, 2020, the country has recorded 25 confirmed cases of Covid-19 including one death, all in Kinshasa. As of March 17, 2020, the first case of local transmission was reported. In 2021, the DRC recorded 17,658 confirmed cases with 2.6% deaths. In Kasai Oriental (Mbujimayi), 910 confirmed cases of Covid-19 were recorded with 0.3% deaths [6].
Given its dual spectacular and dramatic nature, it seemed sensible to us to study the perception of the population of the city of Mbujimayi towards covid 19 at the beginning and end of the pandemic.

2. Methods

2.1 Study setting, type of study, period and study population

This study was conducted in the City of Mbuji-Mayi targeting different people in the Kansele district. This is a cross-sectional descriptive study conducted from December 1 to 15, 2022, a period of two weeks. People meeting the criteria below were included in the study:

- Anyone who has experienced or heard of covid-19 disease.
- Any subject aged at least 17 years or older.
- Agree without constraints to participate in our study.
- Be able to answer the questions asked.

2.2 Technical sampling of data collection and data analysis

To carry out this study, we used random sampling. In the first stage we randomly selected a district of the City of Mbujimayi. In the second stage, we selected the avenues to be surveyed in this district by dividing the sample size for each avenue according to the size of the population. The data were collected by face-to-face interview with people using a structured questionnaire that had been pre-tested.
The data were encoded on an Excel 2007 table and analyzed using SPSS software, version 25.0.3
The sample size using the following formula:

$$(Z^2.P.Q)/d^2=((1.96)^2.0.3.(0.7))/((0.05)^2)=0.806736/0.0025=322$$

Z: 95% confidence coefficient=1.96
P: Prevalence of COVID-19 in the DRC
D: Degree of precision or certainty (0.05)

By applying this parameter we added 10% to the minimum sample size to account for errors and non-responses. Thus, the sample size was estimated at 345 people.

2.3 Ethical consideration

To carry out this study, we had to have the authorization of the decanal authorities of the Faculty of Medicine of the Official University of MbujiMayi. The collection of data was conditioned on the admission of the will of the person who agreed of his own free will to give us the elements of the answers to our questions. This collection was under cover of anonymity in order to guarantee the confidentiality of the data collected, which were only used for scientific purposes.

3. Results

3.1 Sociodemographic Characters

Out of 345 respondents, 195 (56.52%) of them were women. Most of the respondents were single, i.e. 51.3%. The majority of students were pupils/students, i.e. 31.3%. The secondary education level was the most represented, i.e. 49.57%. For the most part, the respondents attended revival churches (44.35%).

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

Variable studied	n	Percentage
Sex		
Mal	150	43,48
Femal	195	56,52
Marital statut		
Single	177	51,3
Married	153	44,35
Widowed	15	4,35
Profession		
Pupil/student	108	31,3
Salesperson	87	25,22
Civil servant	3	8,7
Craftsman	18	5,22
Housewife	15	4,35
Other	75	21,74
Study level		
Primary	78	22,61
Secondary	171	49,57
Higher	57	16,52
Illiterate	39	11,3
Religious conviction		
Catholic	87	25,22
Protestant	81	23,48
Muslim	12	3,48
Kimbanguist	12	3,48
Other	153	44,35
Total	**345**	**100**

3.2 Knowledge about Covid-19

All of our respondents claimed to have heard about COVID-19. The majority had been informed by radio/television 96.52%. At the beginning 53.91% thought, that COVID-19 was a mystical (demonic) disease. At the end of the pandemic, 80.87% of our respondents thought that COVID-19 is a disease with a well-defined cause.

Table 2: Répartition des enquêtés selon la connaissance sur la COVID-19

Variable étudiées	Percentage
Did you hear about COVID-19?	
Yes	100
By what means	
Radio/ television	96,52
Social networks	13,91
Word of mouth	1,74
Healthcare professional	5,22
At school or university	4,35
Knowledge at the beginning	
A political lie	19,13
A mystical (demonic) disease	53,91
A utopia	0,87
A divine punishment	2,61
A disease with a well-defined cause	8,7
An evil spell	7,83
Current knowledge	
A political lie	6,09
A mystical (demonic) disease	9,57
Divine punishment	0,87
A disease with a well-defined cause	80,87
An evil spell	3,48

Table 3: Distribution of respondents according to knowledge of the origin of COVID-19

The probable etiology for 49.57% of respondents was the consumption of bats, whereas at the end of the pandemic, 66.09% thought that COVID-19 was of viral infectious origin.

Table 3: Distribution of respondents according to knowledge of the origin of COVID-19

Origin of COVID-19	n	Percentage
In the beginning		
Viral infection	48	13,91
Divine punishment	15	4,35
Demonic disease	54	15,65
Medical laboratory	123	35,65
Bat consumption	171	49,57
In the end		
Viral infection	239	66,09
Divine punishment	9	2,61
Demonic disease	15	4,35
Medical laboratory	114	33,04
Bat consumption	171	49,57
Total	**345**	**100**

Table 4: Distribution of respondents according to knowledge of the signs of SARS-COV-2 disease

The clinical manifestations known to the respondents were COVID-19: Cough (94.78%), fever (83.48%), difficulty breathing (74.78%), headache (42.61%), fatigue (25.22%), sneezing (23.48%), cold (12.17%), and diarrhea (10.43%).

Table 4: Distribution of respondents according to knowledge of the signs of SARS-COV-2 disease

Signs	n	Percentage
Cough	327	94,78
Fever	288	83,48
Difficulty breathing	258	74,78
Headache	147	42,61
Fatigue	87	25,22
Sneezing	81	23,48
Cold	42	12,17
Diarrhea	36	10,43
Don't know	3	0,87
Total	**345**	**100**

Table 5: Distribution of respondents according to knowledge of COVID-19 transmission

At the beginning of the pandemic, 219 (63.47%) of the subjects surveyed thought that covid 19 was not transmissible and 126 (36.52%) said that it was transmitted by an aerosol mode. A quarter of the subjects under examination said that Covid19 was sexually transmitted. At the end of the pandemic, 319 (92.46%) said that the disease was transmissible. 95.07% (328) of the subjects examined thought that it was transmitted by direct contact with the sick subject and the respiratory aerosol of an infected subject in 92.17% (318).

Table 5: Distribution of respondents according to knowledge of COVID-19 transmission

Transmission	n	Percentage
In the beginning		
Communicable disease		
Yes	126	36,52
No	219	63,47
Mode of transmission		
Sexual	86	24,92
Blood	112	32,46
Aerosol	126	36,52
Hand-carried	98	28,41
Direct contact with subject	115	33,33
In the end		
Transmissible disease		
Yes	319	92,46
No	29	8,41
Mode of transmission		
Sexual	32	9,27
Blood	27	7,82
Aerosol	318	92,17
Hand-carried	27	7,82
Direct contact with subject	328	95,07

Table 6: Distribution of respondents according to means or methods of prevention

The most well-known protective measures for prevention or barrier measures were both at the beginning and at the end of the pandemic: Hand washing (100%), use of hydroalcoholic gels (23.48%), vaccination (20%), and wearing masks (13%).

Table 6: Distribution of respondents according to means or methods of prevention

Protective measures	n	Percentage
Hand washing	345	100
Vaccination	69	20
Use of hydroalcoholic gel	81	23,48
Avoid touching eyes, hands and mouths	9	2,61
Stay at home	6	1,74
Avoid gatherings	6	1,74
Sneeze into your elbow	21	6,09
Wear a mask	45	13,04
Avoid travel	3	0,87
Total	**345**	**100**

Table 7: Distribution of respondents according to the application of barrier measures

During the pandemic, 278 (80.57%) of the subjects thought at the beginning of the pandemic that the barrier measures were difficult to apply and almost half of the subjects thought that it was not necessary to apply the barrier measures (52.40%). At the end of the pandemic, 316 (91.59%) of the subjects said that the barrier measures were easy to apply.

Table 7: Distribution of respondents according to the application of barrier measures

Mesures barrières	n	Percentage
To start with		
Easy to apply	68	19,71
Difficult to apply	278	80,57
High financial cost	117	33,91
Not necessary	181	52,40
At the end		
Easy to apply	316	91,59
Difficult to apply	21	6,08
High financial cost	86	24,92
Not necessary	33	9,56

Table 8: Distribution of respondents according to attitude and actions when faced with a case of COVID-19

During the survey, 321 (91.29%) initially reacted by hiding the case, especially when it was a parent. At the end, 325 (94.19%) said they would take the subject to the hospital.

Table 8: Distribution of respondents according to attitude and actions when faced with a case of COVID-19

Variables	n	Percentage
To start with		
Call emergency	51	14,78
Drive to hospital	73	21,15
Report to health/civil authorities	45	13,04
Hide the case, especially if it's a relative	321	93,04
Keep your distance	315	91,29
At the end		
Call emergency services	236	68,41
Drive to hospital	325	94,19
Report to health/civil authorities	127	36,81
Conceal the case, especially if it's a relative	27	7,82
Keep your distance	218	63,18

4. Discussion

4.1 Sociodemocraphic Characteristics

56.52% of respondents were female compared to 43.48% male. A study conducted in Kinshasa showed that the majority of respondents were female in 67.8% of cases compared to 32.2% for males [7]. We note the same trend of female predominance with a slight difference that could be due to the difference in sample size.

In our series, singles were the most represented (51.3%). These results are lower than those obtained from the CAP study on the COVID-19 pandemic in a university environment in Kinshasa in 2020, where singles were the most represented (82%) [8]. This difference in proportion would be due to the fact that our research was conducted in the general population while that of Kinshasa is conducted in a university environment mainly dominated by young singles.

For the most part, respondents attend revival churches (44.35%). This was observed in Kinshasa where the majority of respondents attended revival churches 57.2% [7].

4.2 Knowledge about Covid-19

In this series, 100% of respondents said they had already heard of COVID-19. These results are similar to those found by other authors, the study conducted by the Kinshasa School of Public Health found that overall 99.6% of respondents said they had already heard of the coronavirus disease [7]. This could be partly linked to high exposure to information provided by the media, and to awareness-raising by the media since the spread of the virus [1].

The most cited source of information is RADIO/television in 96.52% of cases. A study conducted in Kinshasa reveals that the main source of information for the study population remains television and radio (97.7%) [7]. The situation is almost similar between the two environments where radio and television still have their place in the dissemination of information.

At the beginning of the pandemic, 53.91% of subjects thought that COVID-19 was a mystical (demonic) disease. And at the end of the pandemic, 80.87% of respondents said that COVID-19 is a disease with a well-defined cause.

In relation to the origin or cause of the pandemic, 49.57% of respondents thought that COVID-19 was due to the consumption of bats. These results are similar to those found in a study conducted in Burkina Faso where more than half (53%) considered that COVID-19 is not of viral origin, but is the work of God or supernatural causes or that it was invented by man [9]. At the end of the pandemic, 66.09% of respondents stated that COVID-19 is of viral origin.

During this, the majority of respondents indicated as the main signs of coronavirus: Cough (94.78%), fever (83.43%), difficulty breathing (74.78%), headaches (42.61%), fatigue (25.22%). Our results are similar to those found in other studies. Another study conducted in the DRC among the population of KANANGA highlighted the same manifestations despite the variability of proportion [10]. The observation was the same in Morocco [11]. The clinical signs that could point to Covid 19 were known to different populations around the world.

Regarding the place of transmission 100% of respondents say that COVID-19 can be caught anywhere. As for the mode of transmission 95% of our respondents cite direct contact with infected people. The same goes for a study conducted in Kinshasa, where direct contact with the patient (71.4%) and saliva droplets from an infected person (63.3%) were the most cited sources of contamination [7]. On the other hand, in a study conducted by the Red Cross, 40% of respondents were unable to answer correctly regarding the mode of transmission of the virus [12].

In relation to the application of barrier measures, at the

beginning 80% of respondents said that they were difficult to apply. Currently, 51.3% of respondents say that they are useless for the simple reason that the disease no longer exists.

4.3 Attitude and Practice of the Population

For the protection measure, 100% chose hand washing to protect themselves, 23.48% used hydroalcoholic gels, 20% vaccination and 13% wore masks.

During our study, 66.96% of respondents said they would agree to live with a person who had recovered from COVID-19 and would be understandable with him without reducing attendance. Our results corroborate those found in a survey conducted among Central African households on their perception of COVID-19 which reveals that some people who had been sick with COVID-19 said they had been stigmatized by their community [13].

The study conducted in Kinshasa by the School of Public Health showed that the majority of respondents said they would agree to frequent a person with COVID-19, declared cured while respecting barrier gestures (81.3%) [7].

Faced with a suspected case of COVID-19, among our respondents 85.22% think of taking a distance of at least one meter, 56.52% wear a mask, 40% prefer to call the toll-free number. On the other hand, according to the results of the study carried out by Mamadou Diakité on the CAP in the population of Koulouba Point G Sogonafi facing COVID-19, the first action when faced with a suspected case was to call the toll-free number [14]. However, when faced with a suspected case of coronavirus disease, it is first necessary to respect the barrier measures to protect yourself and finally call the toll-free number for better care.

5. Conclusion

This research has highlighted the importance of better communication in the management of epidemics and pandemics. An under-informed population will have a distorted perception of the health reality it is facing, while positive communication will encourage the population to behave in a way that is beneficial and therefore to manage the disease in question effectively.

6. Conflict of Interest

The authors declare no conflict of interest.

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