



Knowledge, Attitudes and Practices of Healthcare Providers on Covid-19 in Kisangani, Democratic Republic of Congo

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Authors' contributions

This work was carried out in collaboration among all authors. Author OB designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors IY, MK, BF and LB managed the analyses of the study. Author LL managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Objective: Our study aimed to determine the level of knowledge, attitudes and practices (KAP) of healthcare providers towards Covid-19 in general hospitals in the city of Kisangani.

Methods: A descriptive cross-sectional study was undertaken among the providers of these general hospitals. KAP on Covid-19 were assessed using a survey questionnaire.

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Results: Female providers were predominant (64%). The majority of respondents were between 25 and 34 years old. 21 were general practitioners (16.7%). The majority had sufficient knowledge (92.2%) provided mainly by radio and television. 77 had a negative attitude towards the possibility of containing the disease; and 88.1% had good practices with regard to Covid-19.

Keywords: Covid-19; healthcare providers; Kisangani; knowledge; attitude; practices.

1. INTRODUCTION

Coronavirus disease 2019, also known as Covid-19, is a rapidly expanding pandemic caused by a novel human coronavirus (SARS-COV-2); Covid-19 was first reported in December 2019 in patients with symptoms of viral pneumonia in Wuhan, China, spreading worldwide, reaching over 2.3 million people and causing a total of 1.770.695 deaths [1].

To combat the spread of the disease, healthcare providers are on the front line of the response to the pandemic [2]. To do this, good knowledge, attitudes and practices (KAP) prove to be essential in the battle against the disease [3]. This knowledge makes it possible to reduce as far as possible the danger of exposure and poor management of patients suffering from this highly transmissible pathogen. Poor understanding of the disease among healthcare workers can lead to delayed identification and treatment leading to the rapid spread of infections [3].

Several health care providers have lost their lives to Covid-19, a global tragedy and a barrier to fighting the disease [4]. A good foundation on KAP is thus found to be essential for the safety of providers on the one hand and the management of patients on the other, which is why guidelines for providers and courses of Online recycling have been developed by the WHO, CDC and various government organizations in various countries to strengthen knowledge and prevention strategies [5].

In some countries of sub-Saharan Africa, the lack of control over the management of patients with covid-19 is causing panic on the part of caregivers; this panic is mainly due to the lack of organizational opportunities, training of nursing staff, equipment of hospitals and improvement of access to care for populations likely to contract this disease, which can contribute to the establishment of good disease control strategies [6].

There is no literature on the KAP of healthcare providers in the face of the Covid-19 pandemic in

the Democratic Republic of Congo in general and in the city of Kisangani in particular. The aim of our study is therefore to assess the level of knowledge, attitudes and practices of healthcare providers in the city of Kisangani in the face of covid-19.

2. MATERIALS AND METHODS

2.1 Nature of the Study

A cross-sectional study was carried out in the general referral hospitals (GRH) of the city of Kisangani, to assess the KAP of providers towards Covid-19.

2.2 Framework and Study Period

Our study was carried out in five hospitals: General Referral Hospital of Makiso, Tshopo, Mangobo, Kabondo, and Lubunga.

They all have the following clinical services: Internal medicine; gynecology-obstetrics; surgery ; pediatrics. Apart from these services, they also have a laboratory and a pharmacy; We must clarify that this study was conducted from September 28, 2020 to October 24, 2020.

2.3 Target Population of the Study

The target population consisted of care providers from GRH of Makiso, Tshopo, Mangobo, Kabondo and Lubunga.

2.4 Sample Size

The sample size was defined using the formula for calculating the size for a proportion. We have estimated at 20% the proportion of respondents with a high level of knowledge about Covid-19, since this value is not known in the DRC or in other African countries with a similar context to ours. So, with a 5% margin of error and 5% precision, our minimum sample size should be 126 people to interview. The study population consisted of all health care providers from general hospitals in the city of Kisangani who agreed to answer our survey questionnaire. Staff

who did not consent to participate in our study were excluded from our study.

2.5 Sampling and Recruitment Mode

In our study we used, despite a survey questionnaire, convenience sampling to assess the KAP of care providers.

We conducted an interview using a survey sheet containing the following variables of interest: Age of the respondent, sex, profession, experience, level of knowledge, attitude and practice.

The data collected was entered and analyzed on IBM SPSS software. The percentage for each variable category was calculated for all categorical variables.

3. RESULTS

3.1 Sociodemographic Data of the Provider

Table 1 presents the socio-demographic characteristics of the study participants.

It emerges from this Table 1 that:

Providers aged 25-34 are in the majority with a frequency of 46 cases or 36.5%. Female providers are predominant with a frequency of 67 cases or 53.2% against 46.8% of male providers. Providers whose experience varies from five to nine years are predominant with a frequency of 54 cases or 43.20%. Nurses are the most dominant of our respondents with a frequency of 92 cases or 73.0%.

3.2 Level of Knowledge

3.2.1 Knowledge of respondents on covid-19

Table 2 illustrates the knowledge of respondents on covid-19.

It follows from this table that all of our respondents know the corona virus disease.

3.2.2 Knowledge of respondents on the etiology of covid-19

Table 3 presents the knowledge of the interviewees by the case of distribution according to the etiology of Covid-19.

We observe in this Table 3 that 92.8% of our respondents say the covid-19 is a viral disease.

3.3 Source of Knowledge

Table 4 shows the distribution of respondents according to source of knowledge.

This Table 4 shows that the majority of providers obtained information from the radio with a frequency of 49 cases, ie 38.9%.

Table 10 illustrates the distribution of respondents according to the category of people who can catch Covid-19.

3.3.1 Knowledge of the mode of transmission of covid-19

Table 5 shows the distribution of respondents according to knowledge of the mode of transmission of covid-19.

Table 1. Sociodemographic characteristics of the study participants

Sociodemographic data	Frequency	Percentage
Slice age (Years)		
15-24	1	0.7%
25-34	46	36.5%
35-44	45	35.7%
> = 45	34	26.9%
Total	126	100.0%
Experience (Years)		
0-4	29	23.20%
5-9	54	43.20%
10-14	25	20.00%
15-29	18	13.60%
Total	126	100.00%
Quality		
Specialist	4	3.2%
General practitioner	21	16.7%
Male nurse	92	73.0%
Pharmacist	8	6.3%

Sociodemographic data	Frequency	Percentage
Lab technician	1	0.8%
Total	126	100.0%
Sex		
Male	59	46.8%
Feminine	67	53.2%
Total	126	100.0%

Table 2. Knowledge of respondents on covid-19

Knowledge of covid-19	Frequency	%
Yes	126	100.0%
No	0	0.0%
Total	126	100.0%

Table 3. Knowledge of respondents on the etiology of covid-19

Causes	Frequency	Percentage
Bacterial	7	5.6%
Parasitic	2	1.6%
Viral	116	92.8%
Mycotic	0	0.0%
Others *	0	0.0%
Total	126	100.0%

* Others: prion, non-infectious

Table 4. Source of knowledge

Source	Frequency	%
Radio	49	38.9%
Television	38	30.2%
other colleagues	21	16.7%
to social media	18	14.3%
Total	126	100.0%

Table 5. Knowledge of the mode of transmission of covid-19

Transmission mode	Frequency	%
direct contact with infected people	125	99.2%
direct contact with animals	47	37.3%
direct contact with infected objects and surfaces	47	37.3%
From mother to child	6	4.8%

From this table it appears that 99.2% of providers believe that the disease is transmitted through direct contact with infected people.

3.3.2 Knowledge of the respondents on the clinical manifestations of covid-19

Table 6 illustrates the distribution of respondents according to knowledge of the clinical manifestations of covid-19.

Table 6. Knowledge of the respondents on the clinical manifestations of covid-19

Symptoms / signs	Frequency (N = 126)	%
Dry cough	117	92.9%
Fever	118	93.7%
Dyspnea	90	71.4%
Headache	64	50.8%
Myalgia	31	24.6%
Shortness of breath	59	46.8%

This table shows that fever is the most encountered signs in the disease with a frequency of 118 affirmed or 93.7% followed by dry cough (92.9).

3.3.3 Knowledge of the existence of a treatment for covid-19

Table 7 shows the distribution of respondents according to knowledge of the existence of treatment against Covid- 19.

The majority of our respondents with a frequency of 94 cases or 75.2% believe that there is no treatment against covid-19.

3.4 Attitudes

3.4.1 Protection of the black race against covid-19

Table 8 presents the distribution of respondents according to the conviction of the protection of the black race against covid-19.

From this Table 8, it emerges that 77% of the providers affirm that the black race is not spared by covid-19 against 23% of the providers who affirm it.

3.4.2 Attitude towards the possibility of covid-19 containment in the city of Kisangani

The Table 9 shows the distribution of respondents according to possibility holding the Covid-19.

This table shows that 77.6% are pessimistic about the possibility of containing the disease in the city of Kisangani.

3.4.3 Category of people who can catch covid-19

We observe in Table 10 that the great part of our respondents with a frequency of 115 cases or 91.3% affirm that the subjects likely to catch the disease are the elderly.

Table 7. Knowledge of the existence of a treatment for covid-19

Existence of treatment	Frequency	%
Yes	31	24.8%
No	94	75.2%
Total	126	100.0%

Table 8. Protection of the black race against covid-19

Protection of the black race	Frequency	%
Yes	29	23%
No	97	77%
Total	126	100.0%

Table 9. Attitude towards the possibility of covid-19 containment in the city of Kisangani

Possibility of capacity	Frequency	%
Yes	28	22.4%
No	98	77.6%
Total	126	100.0%

Table 10. Category of people who can catch Covid-19

Category of people who can easily catch covid-19	Frequency (N = 126)	%
Adults	48	38.1%
Youth	20	15.9%
Immunocompromised	58	46.0%
senior citizens	115	91.3%

3.5 Practices

3.5.1 Prevention measures practiced by the service provider

Table 11 shows the distribution of respondents according to prevention measures.

Table 11. Prevention measures practiced by the service provider

Preventive measures	Frequency (N = 126)	%
Wearing a mask at every contact with people	111	88.1%
Hand washing before and after touching a patient	113	89.7%
Confinement	70	55.6%
Physical distancing	2	1.6%

This table shows that hand washing before and after touching a patient is the prevention measure most applied by providers with a frequency of 113 cases, i.e. 89.7% followed by wearing a mask at each contact with people with a frequency of 111 cases or 88.1%.

4. DISCUSSION

Covid-19 is an emerging and rapidly evolving global health challenge affecting all sectors [7]. Healthcare providers are not only at the forefront of the fight against this highly contagious infectious disease, but are also directly or indirectly affected by it and the likelihood of contracting this disease is higher among healthcare providers by relative to the general population [4]. It is therefore essential that health care providers around the world have adequate knowledge of all aspects of the disease, from the clinical manifestation, diagnosis, treatment offered and established prevention strategies. During our study, we faced difficulties such as the unavailability of doctors, the refusal to answer the questions contained in the questionnaire and the request for remuneration by some of our respondents before answering.

4.1 Sociodemographic Data of Respondents

In the present study, the provider age group 25 to 34 was predominant at 36.5%. These results are similar to those of Ronald Olum and al., who shows the majority of providers with an age between 18 and 39 years [2].

These results are influenced by our fields of research which were official public hospitals whose working conditions require not only experience but also physical endurance.

As for gender, we found that female providers are predominant with 53.2%. Our results diverge from those of Ronald Olum and al. in Uganda

who found 64% of male providers in their study [2].

This is due to the fact that our study population is predominantly nurses. We point out that in our country there are more nurses than nurses.

4.2 Knowledge of Covid-19 Respondents

From a knowledge standpoint, the majority of healthcare providers had sufficient knowledge of Covid-19 (92.2%), which is consistent with the results of a Vietnamese study on Covid-19 [8]. On the other hand, it is in contradiction with the surveys of Bhagavathula and al. on Covid-19 [9], where the respondents had insufficient knowledge. Further education and training through continuing professional development and book clubs, especially on symptoms and transmission, are essential to improve the knowledge of health care providers about Covid-19 in our environment.

In our study, the main sources of information were radio (38.9%) and television (30.2%). This corresponds to the results of a study conducted by Olum and al. which showed that such as television was the main source of information [2].

4.3 Attitudes of Respondents to Covid-19

About 88.1% of providers believed that wearing general medical masks protected against Covid-19. The same observation was made by Ng and al. which have shown adequate protection [10]. Our study reveals that the majority of providers at general hospitals in the city of Kisangani showed a negative attitude regarding the possibility of containing the pandemic (77%), which disagrees with Giao's study on Covid-19 [8]. Only 22.4% of providers in our study agreed that it was possible to contain the coronavirus disease in the city of Kisangani, implying that adequate information on the management of Covid-19 cases should be provided to providers. However, attitude was not significantly determined by knowledge.

4.4 Practices of Respondents Facing Covid-19

Our study shows that healthcare providers in Kisangani general hospitals have good Covid-19 prevention practices similar to those of Alfahan and al. in Saudi Arabia [11]. The majority of providers follow infection prevention and control practices recommended by the country's Ministry of Health and WHO. These include regular hand

hygiene, physical distancing and wearing a face mask in high risk situations. 88.1% and 89.7% reported wearing a face mask when in contact with patients and washing their hands before / after handling patients. These are very vital practices to prevent the transfer of Covid-19 from patients to patients and to providers themselves. However, up to 55.6% of healthcare providers admitted that containment is necessary to avoid patients with symptoms suggestive of Covid-19. This can be attributed to the shortage of personal protective equipment which has become a global problem [12].

5. CONCLUSION

Corona virus disease is an emerging public health problem that threatens the lives of the world's population in general and the Congolese in particular. The results of this work will enable the health authorities to help health care providers to the extent that their knowledge of what to do in the face of this pandemic should be improved.

CONSENT

It is not applicable.

ETHICAL APPROVAL

Our study was carried out after Ethical approval from the research services of HGR / Makiso, Tshopo, Mangobo, Kabondo and Lubunga.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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APPENDIX

DATA COLLECTION SHEET :

Subject: "Knowledge, attitude and practice (KAP) of healthcare providers on Covid-19"

1. IDENTITY OF THE CARE PROVIDER

Age:

Gender: M F

Quality:

Specialist Male nurse

Generalist Physician Pharmacist

Experiences:

2. KNOWLEDGE

Q1. Do you know about covid-19?

R / Yes No

Q2. Covid-19 is a disease:

Bacterial Sexually transmitted Other specify

Parasitic Viral

Q3. Where did you first hear about Covid-19?

On the radio on television With colleagues

To social media Other

Q4. How do you think the Covid-19 is transmitted?

Direct contact with infected people By direct contact with infected animals

By direct contact with infected objects and surfaces From mother to child

Other (s) to be specified.....

Q5. What are the symptoms and signs that people with Covid-19 may have?

Dry cough Fever

Dyspnea Headache

Myalgia Shortness of breath

Q.6. Is there a treatment for Covid-19?

Yes No

If yes which.....

3. ATTITUDE

Q.7. Do you think the black race is protective against Covid-19?

Yes No

Justify yourself

Q.8. Are you convinced that you can participate in the care of a patient with Covid-19?

Yes No

Q.9. Do you think that the DRC, precisely the city of Kisangani, is in a good position to contain the Covid-19 pandemic?

Yes No

If yes, how?

Q.10. In your opinion, which category of people can easily catch Covid-19?

The adults Immuno compromised

Third age people Young people

Other (s) to be specified).....

4. PRACTICE

Q.11. Do you think that the transmission of this disease can be controlled by using preventive means?

Yes No

Q.12. What preventive measures would you take to protect yourself against Covid-19?

R / Wearing a mask at each contact with patients

Hand washing before and after touching a patient Containment

Other (s) to be specified).....

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