KNOWLEDGE, ATTITUDES AND PRACTICES (KAP) ON COVID-19 IN STUDENTS OF UNIVERSITY OF KISANGANI, CONGO

ABSTRACT

Objectives : This study aimed to determine the level of knowledge, attitudes and practices (KAP) of students of the Faculty of Pharmacy of the University of Kisangani.

Methods : A cross-sectional descriptive study was undertaken among students of the Faculty of Pharmacy. KAPs on Covid-19 were assessed using a survey questionnaire.

Results: Male students were predominant (50.8%). The majority of respondents were under or equal to 25 years old. The majority had sufficient knowledge (97.4%) provided mainly by television and radio. 63 respondents or 33.3% of cases did not know if the disease exists in Kisangani; and 88.9% had good practices regarding Covid-19.

Conclusion: These results showed that most students have a good knowledge of Covid-19; they presented good practices as well as good attitudes.

Keywords : Covid-19, students, Pharmacy, Kisangani, Knowledge, Attitudes, Practices.

INTRODUCTION

Over the past two decades, the world has experienced a number of infectious disease outbreaks that have shown a high rate of spread. Currently, concern is growing over the continued spread of Covid-19 in some parts of the world [1].

Coronavirus disease 2019, also called Covid-19, is an infectious disease caused by the newly discovered coronavirus known as severe acute respiratory syndrome coronavirus-2 (SARS-COV-2) [1].

This disease affects all areas of human life, and the education sector is not spared. First reported in Wuhan, Hubei Province, China on December 8, 2019, Covid-19 has rapidly spread around the world to become a global public health emergency. The World Health Organization (WHO) designated COVID-19 as a pandemic on March

11, 2020 [2]. As of November 22, 2021, the world has recorded 254,528,745 confirmed cases of Covid-19 including 3,464,997 deaths [3].

Africa was the least affected continent after Oceania with a cumulative confirmed case of 8.4 million including 218,000 deaths. The first case of Covid-19 in Africa appeared in February 2020, in Egypt. The 54 countries of the continent are now affected by the Coronavirus [3 , 4]

The Democratic Republic of Congo (DRC) recorded the first case of COVID-19 on March 10, 2020, officially declared in its press briefing of March 24, 2020, where the General Director of the National Institute for Biomedical Research (INRB) reported the presence of the Covid-19 only in the city province of Kinshasa, partially in the townshops of Kitambo, Kinshasa and Gombe [5]. As of November 22, 2021, the country has recorded 57,880 confirmed cases with 27,614 recovered and 779 deaths [3].

In Kisangani in the province of Tshopo , the first case was reported on a certain Wednesday, June 3, 2020 in a 47-year-old subject. As of October 28, 2021, the province had 1048 confirmed cases with 954 recovered and 36 deaths [6, 7, 8].

Nowadays, no study has addressed this subject among students of the University of Kisangani (UNIKIS) in general and those of the Faculty of Pharmacy in particular. To fight against the spread of the disease, pharmacy students, future important players in health are also concerned. In this effect, good knowledge, attitudes and practices (KAP) are necessary in the fight against this disease. This is how we undertook this study which will answer the following research question: What are the KAP of UNIKIS pharmacy students on Covid-19?

MATERIAL AND METHODS

Type of study

A cross-sectional descriptive study was conducted at the Faculty of Medicine and Pharmacy of the University of Kisangani to assess the KAP of pharmacy students with regard to Covid-19.

Framework and period of study

Our study was carried out within the Faculty of Medicine and Pharmacy as well as at the Faculty of Sciences of the University of Kisangani where the audience of the first pharmacy graduate is located. This study was conducted from April 01 to November 31, 2021.

Target population of the study

The target population is made up of students from G1, G2, G3, P1 and P2 pharmacy.

Sampling and method of recruitment

Cluster sampling was used to constitute our sample. We divided each audience into strata.

Thus, in the 1 st graduate (G1), we selected 49 students among the 115 in total; in 2nd Graduate (G2), 63 out of 72 students; in 3rd Graduate (G3) 27 out of 35 students; in the 1st year Pharmacy (P1) 30 students out of 35 in total and in the 2nd year Pharmacy (P2), 20 students out of 20 in total.

Sample size

The sample size was calculated using the following size calculation formula for a proportion: $N \geq Z^2_{\frac{\alpha}{2}} \frac{P(1-P)}{d^2}$

With :

p : proportion of respondents with a high level of knowledge about COVID-19: we estimate at 0.20 since this value is not known in the DRC or in other African countries with a similar context to ours.

Z^2: 95% confidence coefficient for a two-sided test: 1.96.

d : degree of precision, i.e. 0.05.

Applying these parameters, the minimum size was 214 people to interview.

Given the difficulty of meeting some students, this size was reduced to 189.

Selection of respondents

- **Inclusion criteria**
  - Be a student regularly enrolled in the Faculty of Pharmacy;

- Have agreed to answer our survey questionnaire;
- Be present in the audience on the day of the survey.

➢ **Exclusion criteria**

- Students who did not consent to participate in our study were excluded;
- Students absent on the day of the survey.

Variables of interest

We conducted an interview using a survey form containing the following variables of interest:

- Age of the respondent;
- Sex;
- Audience;
- Variables relating to knowledge, attitudes and practices on covid-19.

Data collection technique

In our study, we used the interview technique directed by a survey questionnaire.

Data processing and analysis

The data collected was entered into Excel 2016 and analyzed using IBM SPSS version 20.0 software. The percentage of each variable category was calculated for all categorical variables.

Ethical aspects

Verbal consent was obtained from each participant before being registered and answering the survey questionnaire. The anonymity of the information collected was assured during the survey.

RESULTS

SOCIODEMOGRAPHIC DATA OF STUDENTS

It appears from the table I that the majority of our respondents are less than or equal to 25 years old, ie 72.0%. Male students are predominant with a frequency of 96 cases or

50.8%. G2 students are the most dominant of our respondents with a frequency of 63 cases or 33.3%.

LEVEL OF KNOWLEDGE

Knowledge of respondents about Covid-19

It follows from the table that our respondents are mostly aware of coronavirus disease, i.e. 97.4%.

Knowledge of respondents on the etiology of Covid-19

We observe in the table III that 91.5% of our respondents say that Covid-19 is a viral disease.

Source of knowledge

The table IV shows that the majority of students were informed on television with a frequency of 74 cases or 39.2%.

Knowledge of the mode of transmission of Covid-19

This table shows that 90.5% of our respondents believe that the disease is transmitted by direct contact with infected people.

Knowledge of respondents about the clinical manifestations of Covid-19

This table shows that a dry cough is the most frequently encountered sign in the disease with a frequency of 131 statements, i.e. 69.7%, followed by fever (63.3%).

Knowledge of the existence of a treatment for Covid-19

The majority of our respondents with a frequency of 127 cases or 67.2% think that there are treatments for Covid-19.

ATTITUDES

Attitude to the possibility of the existence of Covid-19 in the city of Kisangani

It emerges from this table VIII that part of our respondents, i.e. 49.2%, affirm that Covid-19 exists in Kisangani.

Protection of the black race against Covid-19

From this table IX, it appears that 59.3% of students affirm that the black race is not spared by covid-19 against 40.7% of students who invalidate it.

Attitude of respondents on the acceptability of screening, care and vaccination against Covid-19

It emerges from this table X that:

The majority of our respondents with a frequency of 165 or 87.3% of cases accept to be tested for Covid-19; 79.9% of students agree to care in the event of Covid-19 infection;

Our respondents accept in majority, i.e. 61.9%, to be vaccinated against Covid-19.

Category of people who can catch Covid-19

We observe in table XI that the majority of our respondents with a frequency of 151 cases or 80.0% affirm that the subjects likely to catch the disease are the elderly.

PRACTICE

Confidence that the battle against Covid-19 will be won in the DRC

Table XII shows us that 76.2% of our respondents are confident that the fight against Covid-19 will be successful in the DRC.

Preventive measures practiced by students

This table reveals that:

The majority of students, i.e. 88.9%, confide in preventive measures against Covid-19; 90.5% of our respondents opt for wearing masks as a preventive measure followed by 55.0% for hand washing with soap and water.

DISCUSSION

Study limitations

During our study, we faced some difficulties among which we quote:

- Refusal to participate in the study by most students for the reason of preparing for exams;
- Some students disappeared with the questionnaires.

Sociodemographic data of respondents

In the present study, the age group of students less than or equal to 25 years old was predominant with 72.0%. This result is higher than that of Ngoyi JM et al who found the same age group among ISTM/Lubumbashi students with a rate of 49.2% [2].

As for sex, we found that male students are predominant with 50.2%. Our results differ from those of Ngoyi JM et al. in Lubumbashi who found 12.5% of male students in their study [2].

This is explained by the fact that in our environment, girls attend the faculty of medicine and pharmacy less.

Knowledge of respondents about Covid-19

From a knowledge point of view, the majority of students had sufficient knowledge of COVID-19 (97.4%), which is consistent with the results of a KAP study conducted in Mali among medical students, which showed that 98 % of participants had good knowledge about the pandemic [10]. This is explained by the fact that the population surveyed was made up of future health workers, therefore they have a minimum knowledge of COVID-19.

In our study, the main sources of information on Covid-19 were television (39.2%) followed by radio (27.5%). This differs from the results of a study conducted by Ngoyi JM et al which showed that social networks were the main source of information [2]. This could be partly linked to a high exposure to information provided by the media since the expansion of the virus.

The majority of respondents (90.5%) accept that COVID-19 is transmitted through direct contact with infected people. This is in line with the results of a study done in 2021 in Tunisia by N. Ketata et al [9].

About 67.2% of our respondents believe that there are treatments for Covid-19. This result is similar to that of the Dibanga study in Mali [10].

Attitudes of respondents to Covid-19

About 80.0% of students thought that older people are more at risk of contracting Covid-19.

The same observation was made by N. Ketata et al who showed that these people are more vulnerable [9]. Our study reveals that pharmacy students showed a positive

attitude regarding the existential possibility of the pandemic in Kisangani (49.2%), which is in agreement with the study by N. Ketata et al on the COVID-19 [9]. Only 17.5% of our respondents did not agree on the possible existence of coronavirus disease in the city of Kisangani and 33.3% are indifferent. Which is to say that adequate information on the management of COVID-19 cases should be provided to students.

About 61.9% of pharmacy students agree with vaccination against Covid-19. This disagrees with the Mymozette study Dibanga who reported that only 36.8% of students were vaccinated [10]. Being future health workers and knowing the properties of vaccines in the human body, pharmacy students are mostly ready to be vaccinated to protect themselves against the pandemic.

Respondents' practices in the face of Covid-19

Our study shows that students have good prevention practices against COVID-19. This result differs from that of Ngoyi et al in Lubumbashi [2]. The majority of respondents follow the prevention practices against Covid-19 recommended by the country's Ministry of Health and WHO. These include regular hand hygiene and wearing a face mask. 90.5% said they wore a face mask when in public settings and 55.0% washed their hands after contact with any person, space or object. These practices are contrary to those of a study conducted in Mali by Dibanga which showed that student practices were unfavorable, i.e. 31.9% did not respect the barrier measures [10]. These are healthy practices to prevent infecting yourself or others with Covid-19.

These good practices of prevention against the disease by the students are explained by the fact that the authorities of the faculty of medicine and pharmacy required all students to protect themselves in a university environment but nevertheless the physical distance posed a problem following the insufficiency Locals.

CONCLUSION

In conclusion, we found that the majority of pharmacy students have sufficient knowledge about transmission, symptoms and prevention of Covid-19. The sources of information were represented mainly by television and radio. 50.8% of respondents had

a negative attitude in that they do not believe in the existence of the disease in the city of Kisangani, and just over 85% of students had good practices on Covid-19.

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

Table I. Sociodemographic characteristics of study participants.

Sociodemographic data	**Frequency**	**Percentage(** %)
Age range (years)		
<25	136	72.0
26 – 33	43	22.8
>34	10	5.3
Total	189	100
Sex		
Male	96	50.8
Feminine	93	49.2
Total	189	100
Promotion		
G1	49	25.9
G2	63	33.3
G3	27	14.3
P1	30	15.9
P2	20	10.6
Total	189	100

Table II illustrates respondents' knowledge of Covid-19.

Table II. Knowledge of respondents about Covid-19.

Knowledge about Covid19	**Frequency**	**Percentage(** %)
Yes	184	97.4
No	5	2.6
Total	189	100

Table III presents the knowledge of respondents by the distribution of cases according to the etiology of Covid-19.

Table III . Knowledge of respondents on the etiology of Covid-19

Knowledge of etiology	**Frequency**	**Percentage(** %)
Viral	173	91.5
Parasitic	6	3.2
Sexual	6	3.2
Bacterial	4	2.1
Total	189	100

Table IV illustrates the distribution of respondents according to the source of knowledge

Table IV. Source of knowledge

Source	**Frequency**	**Percentage(** %)
Television	74	39.2
On the radio	52	27.5
Social media	40	21.2
With colleagues	18	9.5
Others	5	2.7
Total	189	100

Table V presents the distribution of respondents according to knowledge of the mode of transmission of Covid-19

Table V. Knowledge of the mode of transmission of Covid-19

Transmission mode	**Frequency**	**Percentage(** %)
Direct contact with the infected person	171	90.5
Direct contact with infected surface and objects	33	17.5
Direct contact with infected animals	12	6.3
From mother to child	3	1.6

Table VI illustrates the distribution of respondents according to knowledge of the clinical manifestations of Covid-19

Clinical manifestations	**Frequency**	**Percentage(** %)
Dry cough	131	69.7
Fever	119	63.3
Dyspnea and headache	54	28.7

Shortness of breath	33	17.6
Myalgia	6	3.2

Table VI . Knowledge of respondents about the clinical manifestations of Covid-19

Table VII shows the distribution of respondents according to knowledge of the existence of treatment for Covid-19

Table VII . Knowledge of the existence of a treatment for Covid-19

Existence of processing	**Frequency**	**Percentage(** %)
Yes	127	67.2
No	62	32.0
Total	189	100

Table VIII shows the distribution of respondents according to the possibility of the existence of Covid-19

Table VIII . Attitude to the possibility of the existence of Covid-19 in the city of Kisangani

Covid-19 exists in Kisangani	**Frequency**	**Percentage(** %)
Yes	93	49.2
No	33	17.5
Do not know	63	33.3
Total	189	100

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

Table IX . Protection of the black race against Covid-19

Protection of the black race	**Frequency**	**Percentage(** %)
No	112	59.3
Yes	77	40.7

Total	189	100

Table X presents the attitude of respondents on the acceptability of screening, treatment and vaccination against Covid-19

Table **X.** The acceptability of screening, care and vaccination in Covid-19

	Frequency	**Percentage(** %)
Screening acceptability		
Yes	165	87.3
No	24	12.7
Total	189	100
Acceptability of support		
Yes	151	79.9
No	38	20.1
Total	189	100
Vaccination acceptability		
Yes	117	61.9
No	72	38.1
Total	189	100

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

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

People who can catch Covid-19	**Frequency**	**Percentage(** %)
3rd ^{age} people	151	80.0
Immunocompromised*	62	33.0
Adults	31	16.5
Youth	21	11.2

*Immunocompromised: people living with HIV (PLHIV)

Table XII illustrates the confidence of our respondents in the success of the battle against Covid-19 in the DRC

Table XII. Confidence of our respondents in the success of the battle against Covid-19 in the DRC

Confidence that the battle against Covid-19 will be won in the DRC	**Frequency**	**Percentage(** %)
Yes	144	76.2
No	45	23.8
Total	189	100

Table XIII shows the distribution of respondents according to preventive measures

Table XIII . Preventive measures practiced by students

Preventive measures	**Frequency**	**Percentage(** %)
Confidence in prevention measures		
Yes	168	88.9
No	21	11.1
Total	189	100
Preventive measures practiced		

Wearing a mask	171	90.5
Hand washing with soap and water	104	55.0
Hand disinfection with hydro-alcoholic solution	96	50.8