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Knowledge, Attitudes and Practices of the Population on Covid-19 in the Health District of Commune I of Bamako

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Abstract

Introduction : *The COVID-19 disease first appeared in December 2019 in the city of Wuhan, China, and then quickly invaded other countries around the world. COVID-19 has become a public health issue due to its high risk of human-to-human transmission within the population. Previous studies have shown that population behaviour is critical in the prevention and control of an outbreak. Methods : this was a cross-sectional descriptive study on the population of the Health District of Commune I of Bamako from January 1 to October 31, 2024. The data was collected through a questionnaire from 384 participants. The data were processed and analysed with the Epi info 7.5.2 softwares.*

Results : *The average frequency of knowledge is considered to be the majority, i.e. 91% of the population. For practical management, the population has an overall score of 84% for frequent handwashing with soap and water and 54% walked with a mask.*

Conclusion : *At the end of this study, it appears that the entire population had heard of COVID-19. Television and radio were the sources of information in the majority of cases. However, we note a reluctance to vaccinate due to the lack of belief in the effectiveness of the vaccine. Enhanced awareness and communication activities for COVID-19 are essential to limit the spread and control of the disease.*

Keywords: Knowledge, Attitudes, Practices, Covid-19, Commune I

1. Introduction

An outbreak of pneumonia of unknown origin began in December 2019 and was first reported in the city of Wuhan, China, and then quickly spread to other countries around the world. The causative agent was identified and named Severe Acute Respiratory Syndrome Coronavirus 2 (SARSCoV-2) on January 7, 2020 by the China Center for Disease Control and Prevention. First known as 2019-nCOV, the disease was called COVID-19 (Coronavirus Disease-2019) by the World Health Organization (WHO) [1].

In January 2020, the COVID-19 outbreak was declared a public health emergency of international concern, posing a high risk to countries with vulnerable health systems, and resulting in a 0.5% drop in global growth for the year 2020, according to the International Monetary Fund (IMF) and WHO. This COVID-19 pandemic is the global health crisis of our time and the greatest challenge we have faced since World War II [2].

Like other countries in the world, Mali has been affected by the COVID-19 pandemic since March 2020. Exactly, the country recorded its first cases of COVID-19 on March 25, 2020. They were two travellers arriving from France, a 49-year-old woman and a 62-year-old man Countries are struggling to slow the spread of the disease by testing and

treating patients, tracing contacts, limiting travel, initiating quarantines, and canceling gatherings such as sporting events, concerts, and school. Despite the, the disease is moving like a wave that could crash into the systems and people least able to cope. But COVID-19 is much more than a health crisis. By putting pressure on each of the countries it affects, the pandemic has the potential to create devastating social, economic and political crises that will leave deep scars. All over the world, shops, theaters, restaurants and bars have been closed. People infected with coronavirus (COVID-19) at risk of deaths are. People aged 70 and over, people with chronic diseases such as heart, disease, Lung, people with cancer and those who are immunocompromised, people with diabetes [3,4].

According to the WHO, as of March 21, 2023, there were 760,360,956 cases of COVID-19 and 6,873,477 deaths (case fatality rate : 1%). In Mali, according to the COVID-19 Sitrep of June 25, 2023, there were 33,151 cases of COVID-19 and 743 deaths, i.e. a case fatality rate of 2.2%. In this Sitrep, the district of Bamako had 21,773 cases of COVID-19 and 650 deaths, i.e. a case fatality rate of 3.0%. Commune I, 2347 cases of COVID-19 and 11 deaths, i.e. a fatality rate of 0.46%. Previous studies show that population behaviour is critical in preventing and controlling an outbreak. The success of the fight against this outbreak depends on the commitment of everyone. It is in this context that we initiated our study, the objective of which was to assess the knowledge, attitudes and practices of the population on COVID-19 in the health district of Commune I of Bamako [5,6].

2. Methodology

2.1 Setting And Location of Study

The study took place in the health district of Commune I of Bamako. Commune I is bounded to the north and east by the circle of Kati, to the south by the Niger River, to the west by Commune II. Its area is 34.26 km2, or 12.83% of the total area of the District of Bamako. The total population is 529,077 inhabitants, or an average density of 15,032 inhabitants/km2 in 2024 (SIS). The Health District of Commune I includes. A Reference Health Center and twelve health areas and 70 private structures.

2.2 Type and Study Period

This was a cross-sectional study that took place from January 1 to October 31, 2024.

2.3 Study Population

The study concerned the population of Commune I of the district of Bamako.

2. 3.1 Inclusion Criteria

Any person aged 18 or over who lives in Commune I, who has agreed to participate in the study and who consults the CSRef of Commune I.

2. 3. 2 Non-Inclusion Criteria

Anyone who does not meet the inclusion criteria and/or who does not agree to participate in the study.

2.4 Sampling

The sample size was calculated using Epi Info 7.5.2 softwares.

The following parameters were used

- Margin of error at 5%
- 95% confidence interval
- 50% distribution of responses.

The calculation using the above parameters yielded the required sample of 384 participants.

2.5 Data Collection Technique

Data were collected with a questionnaire using the face-to-face interview administration technique. The questionnaire was tested prior to field administration.

Study Variables

- The Socio-Demographic characteristics of the study population
- The population's knowledge of COVID-19
- The population's attitudes towards COVID-19
- The population's practices on COVID-19.

2.6 Data Management and Analysis

The data was recorded, cleaned, corrected and analyzed on the Epi info 7.5.2 softwares. Qualitative variables were presented in terms of frequency and percentage. Quantitative variables in the form of mean and standard deviation.

2.7 Ethical Aspects

The protocol of this study was previously submitted for approval to the scientific committee of the Higher Institute of Public Health of Mali. Authorization from the administrative and health authorities of the district was also obtained before the start of the investigation.

3. Results

We conducted a descriptive cross-sectional study with 384 participants.

Table 1: Socio-Demographic Characteristics of Covid-19 Respondents

Characteristics	Number	%
Age range		
18-22	95	25
23-27	72	19
>28	217	56
Sex		

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Feminine	245	64
Masculine	139	36
Marital Status		
Bachelor	101	26
Divorced	4	1
Married	272	71
Widower	7	2
Level of education		
Non-schoolchildren	105	27
Primary school	95	25
Secondary	88	23
Upper	96	25
Profession		
Housewife	141	36,7
Merchant	52	13,5
Pupil/Student	92	24,0
Worker/Driver	67	17,4
Official	11	2,9
Others to be specified	21	5,5
Grand Total	**384**	**100**

In our study, 51% of respondents had learned about COVID-19 through television (fig1).

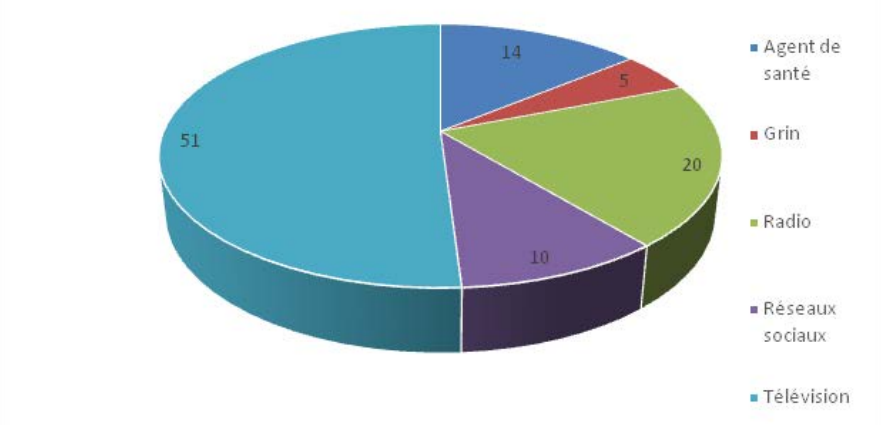

Figure 1 : Distribution of Participants by Means of Learning About Covid-19

Table 2 : Distribution of Respondents According to Their Knowledge of Covid-19

Knowledge of COVID-19	Number	%
Belief in COVID-19		
Not	34	9
Yes	350	91
Knowledge of how the disease is transmitted Contact direct		
Not	77	20
Yes	307	80
Nasal droplets		
Not	203	53
Yes	181	47

Knowledge of the signs of COVID-19		
Not	132	34
Yes	252	66
Knowledge of the existence of a treatment for the disease Existence of medical treatment		
Not	160	42
Yes	224	58
Existence of traditional treatment		
Not	336	82
Yes	48	12
Grand Total	**384**	**100**

The majority of respondents believed in the existence of COVID-19, i.e. 91%. 80% of Respondents were aware of direct contact as a mode of transmission of the disease compared to 47% for nasal droplets. Of the respondents, 66% were aware of the signs of COVID-19 (fever, runny nose, sneezing, shortness of breath/difficulty breathing, sore throat and finally chills).

Table 3 : Distribution of the Persons Surveyed According to Their Knowledge of the Means of Protecting Themselves Against the Disease

Variables	Number	%
Wearing a mask		
Not	70	18
Yes	314	82
Hand washing with soap and water		
Not	76	20
Yes	308	80
1 meter distance		
Not	181	47
Yes	203	53
Use of hydroalcoholic gel		
Not	207	54
Yes	177	46
Disinfection of homes		
Not	298	78
Yes	86	22
Vaccination		
Not	231	60
Yes	153	40

Respondents were aware of wearing a mask at 82%, hand washing with soap and water at 80%, respecting the distance of 1 meter at 53%, using hydroalcoholic gel at 46%, vaccination at 40% and disinfection of homes at 22% as a means of protecting themselves against COVID-19. 58% of respondents said there is medical treatment for COVID-19 and 12% said there is traditional treatment for COVID-19. 4.3. Respondents' attitudes towards COVID-19.

Table 4: Distribution of Respondents According to Their Attitudes Towards Probable Contact With the Covid-19 Virus

Change of habit	Number	%
Change of habit		
Not	33	9
Yes	351	91

Attitudes towards a suspected case		
Alert	26	7
Call the toll-free number	229	60
Fleeing from the sick	35	9
Isolating the sick	82	21
Don't know	12	3
Attitude to an accident of exposure to the virus		
Self-isolation	16	4
Consult a doctor	320	83
Soap washing and antisepsis use	41	11
Wearing a mask	7	2
Travel to endemic areas		
Not	260	68
Yes	124	32
Going to the burial grounds		
Not	328	85
Yes	56	15
Go to public ceremonies		
Not	345	90
Yes	39	10
Grand Total	384	100

The majority of respondents had changed their habits in 91%. When faced with an accident of exposure to the virus, 83% said they consulted a doctor.

Table 5 : Distribution of Respondents By Change in Behaviour Since the on Set of Covid-19

Variables	Number	%
Wash hands frequently with soap and water		
Not	60	16
Yes	324	84
Walking with a mask		
Not	175	46
Yes	209	54
Hand-to-hand greetings		
Not	180	47
Yes	204	53
Contact with Suspicious Persons		
Not	269	70
Yes	115	30
Clean your hands very often with hydroalcoholic gel		
Not	191	50
Yes	193	50
Physical contact with strangers		
Not	337	88
Yes	47	12
Limiting travel and frequentation		

Not	282	73
Yes	102	27
Walking with a mask		
No	175	46
Yes	209	54
Wear gloves		
No	311	81
Yes	73	19

The respondents had changed their behaviour since the outbreak of COVID-19 respectively : 84% washed their hands frequently with soap and water, 54% walked with a mask, 53% avoided hand-to-hand greetings, 50% cleaned their hands very often with hydroalcoholic gel.

4. Discussion

This was a descriptive cross-sectional study that took place between January 1, 2024 and October 31, 2024 in commune I of the Bamako District. Thanks to the questionnaires previously established, this study also allowed us to determine the sociodemographic and professional profiles of the participants, their general knowledge, attitudes and practices on the COVID-19 disease to reduce the spread of the virus.

4.1 Difficultes and Limitations

We found some challenges, especially when it came to data collection. The population is a little suspicious of surveys, especially when it comes to COVID-19 disease. Some people think that it is no longer relevant. For the limitations, we did not require to verify the result of the COVID-19 test carried out as proof that the person has actually been infected with COVID-19, also the vaccination record to justify vaccination status was not examined. Finally, we were not able to carry out a qualitative analysis. However, these do not affect the validity and reliability of the results.

4.2 Socio-Demographic Characteristics

The most represented age group was >28 years old, or 56% of cases. The mean age was 29.28±9.39 years. Our results are comparable to those of Salami I, which found an average age of participants of 27 years with extremes between 21 and 32 years of age among the interns at the Point G University Hospital. On the other hand, Diallo TF reported an average age of 33.10 years in its study on knowledge, attitudes and practices on COVID-19 in Bamako's health facilities. The average age of respondents was 37.8 years ± 13 years in the study of Sacko D in Commune IV of Bamako. Berthe M found 25.96 ± 8.95 years in his study on the knowledge, attitudes and practices on COVID-19 of the population of the large market of Bamako in 2022. These results are in favor of Mali's age pyramid with a particularly young population. We noted a female predominance with a proportion of 64% of cases with a sex ratio of 1.8. This result differs with the data of Berthe M who found that the male sex predominated in 67.2% with a sex ratio of 2.05. In the Ahmed MAA et al study, both sexes were equally represented, 50% each. The majority of respondents had a level of education not in school, with a proportion of 27% of cases. Secondary school students accounted for 23% of the study population. These results differ from that of Diallo TF who found 49% with a secondary level of education in Bamako's health facilities. In the study by Leye MMM et al in Dakar, 59.8% of the surveyed population was educated and essentially at secondary level at least according to their study [7-12].

4.3 Study Population Knowledge of Covid-19

Television was reported as a source of information in 51% of cases, followed by radio in 20% of cases. This rate is lower than that of Diallo TF who found television as a source of information on COVID-19 with 92% in his study. In Berthé M's study in 2022, 97% of those surveyed had received information about COVID-19, television was the most cited source of information by 69.5% of people. Communication is an important part of the fight against epidemic diseases. The Ministry of Health and its partners continue to disseminate awareness-raising messages through information channels, including radio and television channels, and advertising posters, both public and private.

Contact with an infected person was mentioned by 80% of cases as a route of transmission. Berthé M noted the greeting quoted by 41.5% of the participants. On the other hand, Diallo TF reported a high rate of body contact with a COVID-19 patient, cited by 87% of respondents as a route of transmission. The same goes for Leye, MMM et al, in Dakar, which found the greeting with the hands cited by 71.5% of the respondents. Knowledge of the routes of contamination allows the adaptation of the preventive measures dictated by the Ministry of Health in collaboration with the partners. The main clinical signs reported were fever, cough in 66% of cases and runny nose in 58% of cases. Leye MMM et al in Senegal reported fever (75.3%) and cough (63.5%) as the main signs cited by the populations surveyed. Choffor-Nchinda E et al found cough (93.6%), breathing difficulties (75.4%) and fever (74.4%) as the most cited symptoms. The protective measures mentioned were the wearing of masks in 82% of cases, hand washing with soap and water in 80% of cases and the respect of distancing was reported by 53% of respondents. We have 40% of the cases who believed in the existence of the vaccine against the COVID-19 virus as well as the existence of medical treatment in 58% of cases and traditional treatment in 12% of cases. We have 91% of

cases who believed in the existence of the COVID-19 disease. This result is higher than that of Berthé M who found that 75.5% of the respondents believed in the existence of the coronavirus disease. On the other hand, lower than the study by Leye, MMM et al, almost all of the respondents believed in the existence of the disease, i.e. 94.8% of cases. This result is due to the intensification of awareness campaigns around the world on the disease, especially the dissemination of messages in several languages through the media such as television and radio. Despite these efforts to raise awareness, false rumours continue to increase. Thus, disinformation is hindering public health actions to deal with this COVID-19 outbreak. The belief in the existence of the disease is important for this population to get involved in the fight against this pandemic [10-13].

4.4 Public Attitudes Towards Covid-19

The majority, 60% of the respondents, wanted to call the toll-free number of the listening centre for information on COVID-19. This could be explained by the fact that the toll-free number gives access to the listening centre and their desire to learn about COVID-19 is free. It can be added that the ANTIM listening center has played an important role in providing information for actions to prevent and fight the COVID-19 pandemic. This enthusiasm denotes the availability and effort of the entire team of the toll-free number for an attentive listening to the various users which must have created trust in the said team. Seeing a doctor and washing hands with soap were the main reasons for social change in behaviour, at 83% and 11%, respectively. Indeed, access to information improves the level of knowledge of populations with a view to adopting responsible behaviors to deal with the COVID-19 epidemic.

4.5 Public Practices in the Face of Covid-19

Wearing a mask was cited in 54% of cases and hand washing in 84% of cases. This result is lower than that of Berthé M who found that a mask was worn in 74.3% respectively. Diallo TF found that 92.7% of the respondents wore a mask as a mode of prevention. Handwashing with soap was found in 86.3% of participants in Berthé M's study. Diallo TF found that 96.6% of the participants washed their hands with soap. In the study by Leye MMM et al, wearing a mask (93.8%), handwashing with soap and water (77.8%) were the main COVID-19 prevention measures cited by the respondents. Non-belief in the effectiveness of the vaccine was the reason for refusal in 53% of cases among the unvaccinated, followed by fear of getting sick in 34% of cases. In the Sako D study, the fear of being vaccinated dominated by 90.9% of unvaccinated social and health personnel and the cause of the most mentioned fear is the lack of confidence in the vaccine (70.1%) [9-14].

5. Conclusion

At the end of this study, it appears that the average age of the respondents was 29.28±9.39 years. The female sex was predominantly and most of the respondents were married. All the respondents had heard of the coronavirus. Television and radio were the sources of information in the majority of cases. However, we note à reluctance to vaccination among 44% of the respondents due to the lack of belief in the effectiveness of the vaccine. Enhanced awareness and communication activities for COVID-19 are essential to limit the spread and control of the disease.

Conflicts of Interest

The individual authors who have all contributed to this article do not declare any conflict of interest.

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