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Original Article

Assessing the Perceptions and Awareness of COVID-19 (Coronavirus) in Cameroon

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ABSTRACT

Introduction: COVID-19 (coronavirus) has become a global threat to the human population. The virus which originated from China in December, 2019 has swept across continents in the world. Cameroon has been one of the countries with a high infectious rate. Lack of awareness plays a major role in the rise of COVID-19 cases. Studies have shown that there exists a strong correlation between the perception of a disease and a ready compliance to health recommendations.

Objective: This paper studied the awareness and perceptions by the general population of Cameroon on the existence and spread of COVID-19.

Methods: The study involved a qualitative survey designed by online questionnaires which were made available to the population of Cameroon through e-mails and 'WhatsApp'. The survey included the perception of the origin and existence of the COVID-19 virus, its mode of transmission, preventive and control measures. The data obtained from respondents were analysed by descriptive statistics. The data were entered in a spread sheet, Microsoft Excel and normality determined. One-way ANOVA and means comparison using Tukey's test ($\alpha = 0.05$) was performed to check whether the perception of respondents differed significantly.

Results: A total of 573 respondents were obtained. From the analysed results, a greater proportion of the respondents ($P< 0.05$) were aware of the COVID 19 existence, transmission and preventive strategies. This knowledge could lead to a reduction in the spread of the disease.

Conclusion: Our findings suggested that there's more need for public sensitisation of the virus especially its method of transmission, control and prevention.

Keywords: perceptions, COVID-19, control, Cameroon

INTRODUCTION

COVID-19 (coronavirus) is a zoonotic virus with bats as a major reservoir [1]. The virus was first identified in China based on sequencing of viral genome from samples collected from clinical patients [1]. Preliminary cases were believed to have been transmitted through bats. The

outbreak of the COVID-19 was classified as pandemic by the World Health Organisation in March 11 2020 [2]. In the past weeks, the fast spread of COVID-19 throughout continents brought about a global concern. Closely monitored statistics by the WHO [1] showed that as of the 23th of April 2020, the global cases of infection stood at 1,215,667 while the number of deaths recorded was 65,655 [3]. Large scale sampling and massive testing of the population has been the major method in identifying infected cases in Cameroon [4]. Reports from the Cameroon's Ministry of Public Health shows a daily rise in the number of new cases recorded [4]. This increase can be attributed to non-respect of preventive measures implemented by WHO and other health organisations in controlling the spread. CDC report show that the virus is transmitted from person to person through close contact with each other, via infectious droplets or in contact with surfaces containing the virus. Currently, no vaccine has yet been developed to prevent the spread of this disease. Also, non-pharmaceutical methods have been the major preventive measure implemented by WHO to be strictly adhered to countries as well as local communities. Some of these strategies include; isolation or quarantine of infected or suspected cases, lockdown of countries borders, travel bans, closure of academic structures, restriction of gatherings and drinking spots, improvement of personal hygiene and keeping a distance of at least 1m away from the next person. Unfortunately, the acceptance and strict adherence to these measures highly depends on the perception of the disease by the population concerned. Studies have shown that there exists a strong correlation between the understanding or perception of a disease and a ready compliance to health recommendations [5]. With the case of the Ebola virus epidemic, it was observed by Richards [6] that the knowledge among the population on the prevention and control of Ebola, helped in eliminating the risks of contracting the virus which brought about a significant drop in the number of infectious cases. Furthermore, similar studies carried out by Hussain [7] showed that the level of awareness by an individual on an infectious disease can possibly lead to a control and prevention of the infection. As of date, no exploratory study has been carried out in Cameroon as regards to this threat. Knowledge of infection pathways and relevant precautions to take are needed to control the pandemic.

The aim of this study was therefore to assess the level of awareness and perception of the population of Cameroon regarding the existence and spread of the COVID-19 (Coronavirus). The assessment of these beliefs will help sensitise the population on corrective and preventive measures which will go a long way to reduce the incidence of the disease.

MATERIALS AND METHODS

Study Design and Population

Due to the lockdown imposed throughout the Cameroons' territory, the research design used involved a qualitative survey with the use of electronic structured questionnaires carried out in the month of April, 2020. The duration of the study was one month (April, 1 to April, 30). The study included participants of both genders and age groups. A consent form of participants was provided at the first page of the survey before the start of the questionnaire. If the participants clicked the "I Agree" section on the consent form, they accepted the survey and automatically began answering the questionnaire. All persons who accepted to take part in the study completed the questionnaire. The participants were given assurance on the confidentiality of their personal identification or IP addresses. The total number of respondents in the survey was 573 which included 317 females and 256 males.

The construction or design of the questionnaire was based on the literature that existed for the COVID-19 disease. The questions were structured in a multiple choice format with responses each of scale 0 - 1 (No or Yes). The questionnaire involving 20 questions was stratified into four sections. The first set (1 to 4) involved personal details of the respondent such as age, gender, level of education, religion. This was closely followed by questions (5 to 8) involving perception or beliefs of the origin and existence of the disease. The third set of questions (9 to 13) involved identifying the disease transmission routes, transmission methods, and risk perception of disease acquisition. The last set of questions (14 to 20) were geared towards disease control and prevention.

Similar responses given by participants across each corresponding question were grouped and summed up which was later used to produce a general scale linked to the various perceptions.

Analysis of Data

Data on respondents perception obtained were entered in a spread sheet, Microsoft Excel and normality determined. One-way ANOVA and means comparison using Tukey's test ($\alpha = 0.05$) was performed to check whether the perception of respondents differed significantly. Results were finally presented on tables and bar charts.

Table 1. Number of participants according to age and gender

Gender	Age					
	<20	21-30	31-40	41-50	51-60	>60
Female	86	115	54	36	17	9
Male	62	87	48	31	15	13

Table 2. Mean population of respondents on perception of origin and existence of the COVID-19

Perception of origin and existence	Mean population of respondents
Animals	222.00±11.00[a]
Man made	89.00±7.00[b]
Punishment from God	53.00±14.00[b]
Does not exist	37.50±3.50[b]
Mean respondents P= 0.001 (P<0.05)	100.38±27.09

Values are expressed as means ± SE

[a,b]Means accompanied by different superscripts differ significantly at P<0.05

RESULTS AND DISCUSSION

A greater proportion of individuals who took part in the study were made up of the active age group ≤ 40. **Table 1** presents the age and gender of the subjects including the number of participants involved in each of the groups.

Perception of Origin and Existence of COVID-19

Based on the results obtained, it was observed that a higher portion of the respondents had awareness on the existence of the virus. Majority of the respondents understood that the origin of the virus was from animals > 70 % (444). Others believed the virus was as a result of God's punishment to humans >10% (106) or man-made >20% (178) (**Figure 1**). Contrary to this, some respondents still had doubts about the existence of the virus > 10% (74). This level of ignorance could create a problem as this set of individuals could go about spreading the disease unknowingly.

Perception of the Mode and Mechanism of COVID-19 Transmission

The highest proportion of the respondents (> 80 %) understood the mode of transmission of the virus as being through person to person contact either by handshake or through contact with infectious droplets such as saliva or sputum (**Figure 2**). From this it shows that the majority of the population considered the virus to exist only on human surfaces. This however showed a limited perception as

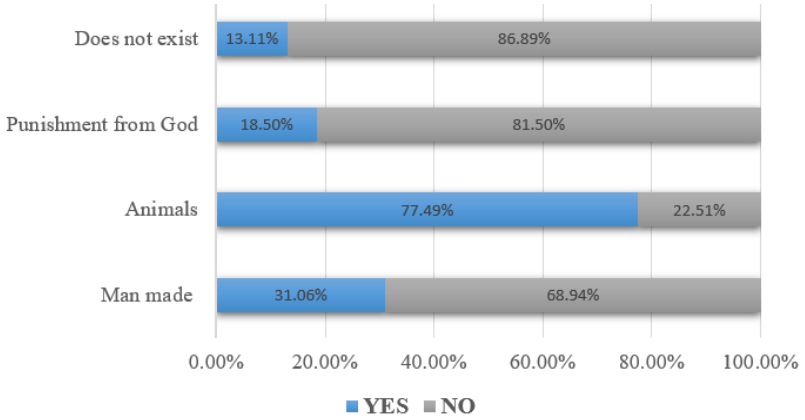

Figure 1. Perception of origin and existence of the COVID-19 (Percentage of respondents)

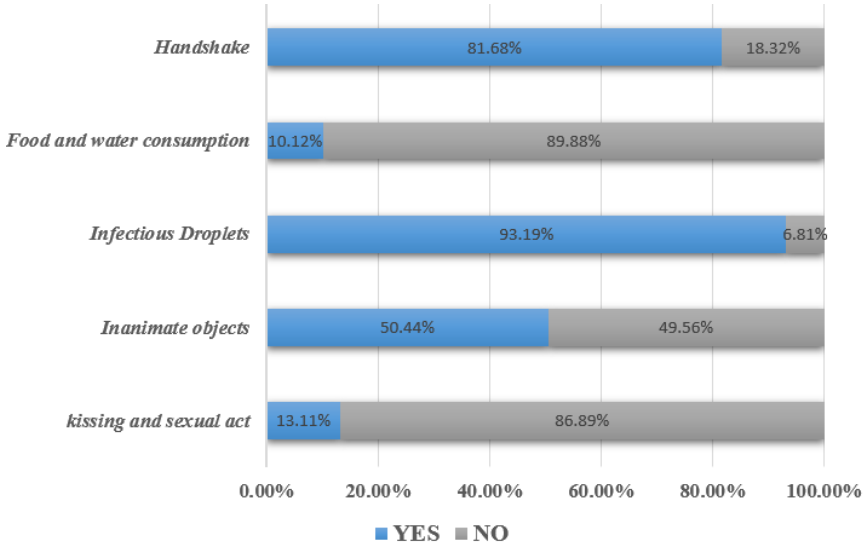

Figure 2. Perception of the mode and mechanism of COVID-19 (Percentage of respondents)

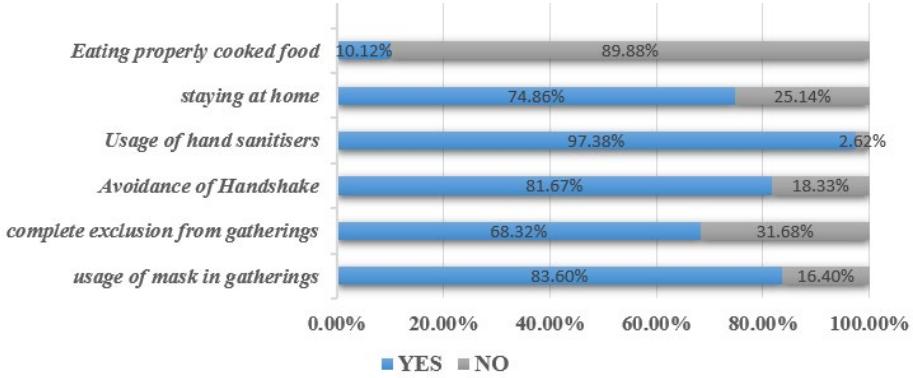

Figure 3. Perception of effective control and preventive measures of the COVID 19 (Percentage of respondents)

regards to the mode of transmission of this virus. This belief is not appropriate but rather misleading considering that research on viruses shows that they can survive outside the human body for a length of time on various types of surfaces or objects found within domestic or public places [8]. Less than (< 20 %) of the respondents believed that the diseases were sexually transmissible and could also be spread from the consumption of contaminated food and water.

Perception of Effective Control and Preventive Measures of COVID-19

Non-pharmaceutical measures including strategies implemented by the WHO were highly understood by the population in the disease prevention. The results (**Figure 3**) showed that hygienic practices which included usage of hand sanitizers, avoidance of handshake and wearing or usage of mask were more understood and practiced in this area (> 80%) than the practice of social exclusion measures such as staying at home and complete exclusion from gatherings (< 80%) which are also considered as effective preventive measures as stipulated by the WHO and CDC guidelines [1].

It was observed that social exclusion in this region to an extent proved difficult especially in the marketplaces. Majority of the population testified they couldn't stay away from markets and shops as most of them used the expression 'hunger kills more than the virus'. This possibly is one of the major challenges to the social exclusion strategy as prescribed by the health officials in the control of the spread of the virus. This could probably be due to the fact that most Africans survive directly on their market sales.

A one way ANOVA (**Table 3**) carried out on the data showed a significant difference (P < 0.05) between the mean population of respondents' on the perception of the various control and preventive measures of the virus. A majority of the respondents were aware on the strategies to control and prevent the spread of the disease. A minority of the population believed the virus could be prevented by eating properly cooked food (29.00±6.00). This idea was false as the transmission of the virus is not related to food borne means.

Table 3. Mean population of respondents on perception of effective preventive and control measures

Perception of preventive measures	Mean population of respondents
Usage of face mask	239.50±27.50[a]
Complete exclusion from gatherings	195.50±17.50[a]
Avoidance of handshake	234.00±2.00[a]
Usage of hand sanitizers	279.00±39.00[a]
Staying at home	214.50±21.50[a]
Eating properly cooked food	29.00±6.00[b]
Mean respondents P= 0.001 (P<0.05)	198.58±25.00

Values are expressed as means ± SE

[a,b]Means accompanied by different superscripts differ significantly at P<0.05

LIMITATIONS

One possible limitation of this study was that of voluntary participation which could give rise to responder bias as such it was not really possible to obtain the effective rate of response. Since questions were administered through online modes, individuals living in areas lacking network facilities could not participate in the survey. Lack of technological devices such as computers and telephones made the response rate low.

CONCLUSION

The results have a lot of significance to health experts. Firstly, it highlights that the use of non-pharmaceutical strategies such as complete public exclusion and improvement of sanitation and hygiene is most effective to prevent the contraction of the disease as vaccines are not yet available. Nonetheless, our findings also highlight the need for more sensitisation of the public concerning the existence of the virus, mechanism of transmission and effective control or preventive methods as a portion of the

population still have beliefs which are contrary and inadequate. These beliefs and perception can have an adverse effect to the population on the spread of the virus and can also contribute greatly to a challenge in controlling this outbreak.

ABBREVIATIONS

WHO : World Health Organization

CDC : Center for Disease Control

ANOVA : Analysis of variance

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DECLARATION OF CONFLICT OF INTEREST

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